



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

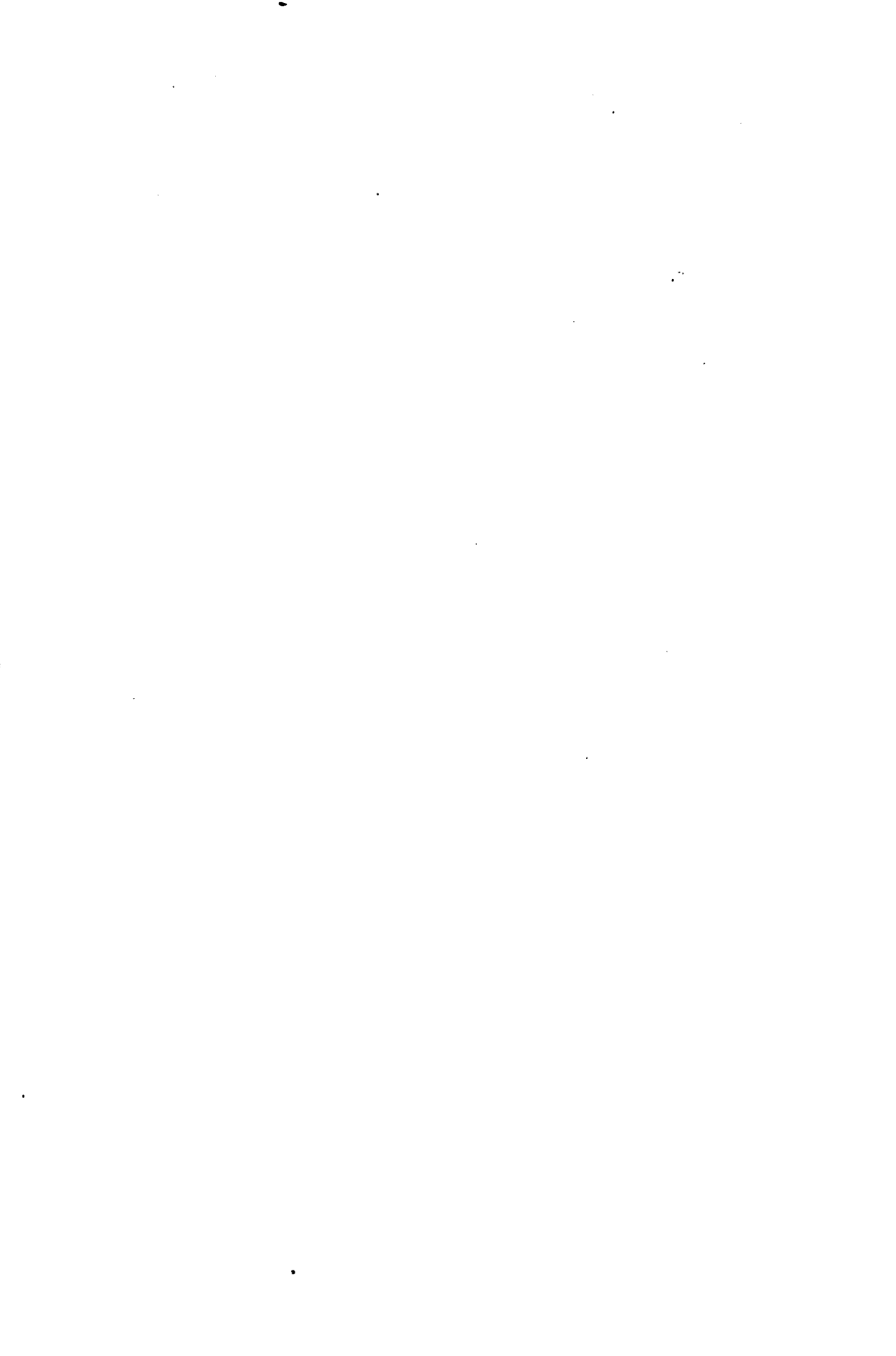
COUNTWAY LIBRARY



HC 4386 H

No.

BOSTON
MEDICAL LIBRARY,
19 BOYLSTON PLACE.



med lib

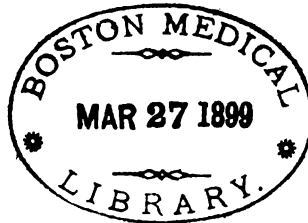
THE
MONTHLY CYCLOPÆDIA
OF
PRACTICAL MEDICINE
AND
Universal Medical Journal.

EDITED BY
CHARLES E. DE M. SAJOUS, M.D.,
PHILADELPHIA.

Vol. XII, Old Series. Vol. I, New Series.



PHILADELPHIA, NEW YORK, CHICAGO :
THE F. A. DAVIS COMPANY, PUBLISHERS.
1898.



COPYRIGHT, 1898,

BY

THE F. A. DAVIS COMPANY.

[Registered at Stationers' Hall, London, Eng.]



Introduction.

THE medical profession has aptly been called "a kind of priesthood set apart and anointed for a peculiar and sacred function, to which belong, to a considerable extent, the issues of happiness and misery, of life and death, and in which unfaithfulness, either in promise or performance, is an offense not only against man, but against the Most High."

This lofty conception of his calling pervades the thoughts of every true physician, and its ennobling influence insinuates itself into his every act. Habitually cherishing such sentiments, he never yields to the temptation of idleness in the pursuit of progressive knowledge; he realizes that those who look to him for relief are entitled to the resources of medicine, not as they were, but as they are. If bodily ailment and loss of life are the greatest of worldly evils, how noble must that pursuit be whose purpose is to obviate them; how great is the responsibility of those who undertake its duties!

"How blest is he who knows no meaner strife
Than Art's long struggle with the foes of life!"

Oliver Wendell Holmes.

When, years ago, the perusal of old writings to resurrect methods buried in centuries of oblivion pointed rather to the superiority of the past than to the possibilities of the future, the medical man could easily satisfy the demands of his highest motives by the exercise of set practices learned from a revered master whose methods it were a sacrilege to modify. Let the result be what it might, *he* had exercised the maximum of his professional powers; reclining on his pillow of ignorance, he could, with composure, enjoy the peaceful slumbers of the just! But with the steadfastness characterizing the development of all things that are good, medicine, after centuries of preparation, gradually assumed new life. At first unperceived, its progress gradually grew apace until its strides were as far-reaching as its blessings were great. With its advances increased the responsibilities of its sponsors, until the blissful ignorance of the doctor of old gradually made way for the anxious scholar of modern times, whose professional duties and the life of his fellow-man are united by a sacred bond, the fabric of which is knowledge,—constantly-fed, unceasingly-replenished knowledge.

It was to adequately assist this legitimate practitioner that the ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES was started. Just ten years ago the first series of five volumes appeared. What its life-history has been need hardly be told; that over five hundred thousand volumes have been distributed in the United States alone sufficiently indicates the generous reception accorded it, while the encouragement given the editor, especially by his colleagues of the medical press, can but be recalled with

emotion. Indeed, in reading the many kindly expressions published each year concerning his arduous task, he was often reminded of R. L. Stevenson's lines:—

"The physician is the flower of our civilization, and when that stage of man is done with, and only remembered to be marveled at in history, he will be thought to have shared as little as any in the defects of the period and to have most notably exhibited the virtues of the race."

The last ten years, however, have been prolific in changes on every side. The intense activity displayed in all departments of medicine, the multiplicity of divisions and subdivisions in medical nomenclature, the ever-increasing value of time and the stringency of available pecuniary resources have greatly modified the circumstances surrounding a physician's existence and his needs. Although the ANNUAL had become a much appreciated work of reference for authors and teachers, the general practitioner, for whom it had been especially created, failed to find in its columns the kind of assistance he required. Often disappointed because every disease, or subdivision of a disease,—pathology, treatment, etc.,—could not be reviewed each year, owing to the fact that the subjects had not received the attention of writers, he condemned the work *in toto*, overlooking the origin of the omission. Again, he found the work too voluminous for current reading,—the very mass of progressive work appalled him!

A careful analysis of the whole question revealed the underlying cause of trouble,—namely, that articles made up of heterogeneous excerpts fail to excite interest and, as a result, soon fatigue the intellect of the reader. Whenever a new line of thought is introduced, the subject modified by the new point adduced must be recalled and former propositions tending to transform both the older and the newer conceptions of the subject must be simultaneously considered and, as it were, digested. That the sum of intellectual labor required, if the progressive feature advanced is at all to prove profitable, must be arduous, is evident; that such labor gradually engenders a disinclination to utilize the kind of literature involving it is a conclusion which deductive reasoning can but sustain. Briefly, the ANNUAL had made for itself a place among writers, teachers, and investigators, but, for the reason given, it had not satisfactorily fulfilled its mission among family physicians, for whose benefit it had been especially planned.

Overworked, overburdened, and often poorly paid, general practitioners, especially those exercising their calling in country-districts, share but little in the enjoyments of life. Harassed, ever anxious, their moments of respite are but opportunities for Nature, and, in enforcing her rights, she subdues functional activity to insure recuperation. In her way, therefore, she prepares their powers for the morrow and thereby contributes her share to their beneficent labors. But, we have seen, scientific progress also has its claims, and the sufferer is entitled to the resources of medicine, not as they *were*, but as they *are*. The duty of the medical editor, therefore, lies between Nature's requirements as regards the physician, and the claims of

justice as regards suffering humanity. Both, it is thought, may be subserved by presenting even scientific literature in an attractive, entertaining, easily-understood form, with professional dignity as a constant guide.

To forever tax the medical man with selections from the most intricate subdivisions of our scientific vocabulary is catering to a growing evil. Indeed, some papers remind one of a mist hovering around tree-tops: the trunks and lower branches—old and firmly implanted—are readily seen; the smaller branches and leaves—new and at the mercy of every breeze—are lost in haze. “Esoteric copy” might not be a misnomer for this kind of literature; once identified, it might be eschewed by medical editors, until lucidity have become a feature of the author’s powers. Now that we are obtaining the main additions to our knowledge from the laboratory rather than from the bedside, a clearer enunciation would subserve the interests of readers and of authors as well, for much that the latter now do is forever buried in mist of their own creation. We have in the contributions of Osler a magnificent example of what an ideal medical literature could be—plain, concise, and unpretentious, but, withal, scientifically exact. His prose courts attention by its entertaining form and impresses the memory by the logical sequence of the ideas presented, without entailing further loss of that vital energy which the general practitioner needs so much to conserve.

These general principles have formed the basis of a modified work, the first volume of which is soon to be brought before the profession. Instead of presenting the excerpts from the year’s literature arranged in order under a general head as before, each disease—including its subdivisions: “Etiology,” “Pathology,” “Treatment,” etc.—is described *in extenso*, and the new features that the year has brought forth are inserted in their respective places in the text. In this manner the reader is saved all fatiguing study: he has before him what in the older work was left to his memory.

The work, when completed, will present all the general diseases described in text-books on practical subjects—medicine, surgery, therapeutics, obstetrics, etc.—and, inserted in their logical order in the text, all the progressive features of value presented during the last decade. This will remove the cause of dissatisfaction caused by the absence of general subjects in the older work. If the year brings forth nothing new upon any particular disease, the latter will, at least, appear as it was when last studied, whether this be one, two, five, or twenty years before.

While the general practitioner’s needs will thus be adequately provided for, authors and teachers will not have to deplore the change. Instead of having at their disposal only the reviews of a single year, as before, they will have all those of value published during the last ten years. The article of “Abdominal Injuries,” for instance, will contain 163 article excerpts besides the general text; that on “Appendicitis,” over 300 references, etc. Being interpolated in the text and controversially arranged, the abstracts will either sustain the views advanced or indicate fields as yet insufficiently explored.

So great an amount of matter from different sources would seem to

insure a degree of confusion tending greatly to increase the reader's labors. This is avoided by using large type for the general text,—that is to say, the description of a disease,—and small type for the excerpts from journals. Either may thus be read separately. If, for instance, the reader desires to review the general subject, he has but to read the text in large type; if he wishes to analyze or study a disease, operative procedure, drug, etc., in which he is particularly interested, he has but to include the small-type text in his perusal of the article.

The companion publication of the new ANNUAL—THE MONTHLY CYCLOPÆDIA OF PRACTICAL MEDICINE, the continuation of the UNIVERSAL MEDICAL JOURNAL—is designed to play a much more important rôle than the latter did as an aid to the subscribers to the work. It will consist of forty pages of matter intended to portray, in an easily assimilated form, the practical suggestions embodied, first, in the literature of the previous year, and, second, in the current literature, the whole making up at the end of each year an additional volume of nearly 500 pages.

Books appearing periodically, as “annual” publications obviously do, only afford progressive information up to the time the work goes to press. Although the new work described is to be revised and brought up to date several times a year so that a physician purchasing it may always obtain a very recent edition, the fact nevertheless remains that editions cannot be purchased as fast as they appear. To enable the subscriber to keep constantly informed on the progress of medical science in the manner herein outlined and utilized for the larger work—easily understood text, logical sequence in the grouping of ideas, etc.—the MONTHLY CYCLOPÆDIA will be sent to him regularly without extra expense, for three years, if need be.

In the course of long rides through uninteresting streets, along country-roads, etc., the general practitioner frequently has available moments which he takes advantage of for the perusal of instructive literature. This liberates time for other portions of the day which he can utilize for purposes of recuperation and recreation. It was thought that if the MONTHLY CYCLOPÆDIA could be published in bold and clear type and made easily portable, this feature of his daily labors could be facilitated.

The MONTHLY CYCLOPÆDIA is subdivided into four sections. The first contains a series of reviews composed of some of the more important contributions of the year grouped in such a way as to introduce, when possible, controversial views. Such an arrangement, it was thought, would prove both instructive and readable. Each subject presented is only reviewed in part, however, and another issue may again treat the same question, but from another stand-point and with the assistance of different excerpts. The second section reviews questions thought by the editor to merit special attention, while the third contains brief reviews from the current literature which do not permit grouping, owing to their heterogeneous nature. Book reviews, etc., constitute the remainder of the new periodical, the first issue of which is respectfully submitted.

THE EDITOR.



MONTHLY CYCLOPÆDIA

OF

PRACTICAL MEDICINE.

Vol. XII.
Old Series.

PHILADELPHIA, JANUARY, 1898.

Vol. I.
New Series.

TABLE OF CONTENTS.

	PAGE		PAGE		PAGE
ABDOMINAL INJURIES	31	HODGKIN'S DISEASE	34	Malarial Retinal Hemorrhage.	
Diagnosis. Demons.....	31	Treatment. J. D. L. Macalister.....	34	Baséres.....	20
Treatment. Le Dentu, Chauvel, Mi-		HYSTERICAL ANOREXIA	35	OBESITY	36
choux.....	31	Pathology. Nebelthau.....	35	Treatment. P. Jarvis.....	36
ABORTION	31	IMMUNITY. Thompson.....	35	PERTUSSIS. Carl Spengler.....	36
Diagnosis. T. W. Eden.....	31	INDICANURIA	35	THYROID EXTRACT	36
Treatment. Tarnier, Henry J. Gar-		Pathology. Herter.....	35	Physiological Action. Isaac Ott.....	36
rigues.....	32	INEBRIETY	35	TUBERCULOSIS OF THE LARYNX	37
ACNE	32	Pathology. T. D. Crothers.....	35	Treatment. Donelan.....	37
Treatment. Leslie Phillips.....	32	INFLUENZA (GENERAL REVIEW)	8	TUBERCULOSIS OF THE LUNGS (GEN-	
ACROMEGALY	32	Aural Complications. W. P. Eagle-		ERAL REVIEW).....	20
Pathology. Percy Furnivall, John N.		ton, Gorman Bacon.....	10	Etiology. H. B. Weaver.....	20
d'Esterre.....	32	Influence on Birth-rate. Engel.....	11	Diagnosis. J. P. Arnold, E. L.	
AMENORRHEA	32	Influenza and Peripheral Neuritis.		Trudeau, Vesleson, Bergonié,	
Etiology. W. L. Barrage.....	32	Herman B. Allyn.....	11	Disen, Mark J. Knepp.....	21
ANTHRAX	33	Influenza During Pregnancy. De-		Treatment. E. Lemoine, Clifford	
Pathology. Sobernheim.....	33	melein.....	10	Beale, Chaplin and Tunncliffe, St.	
APOCYNUM CANNABINUM. A. A.		Pulmonary Complications. A. Fraen-		Clair Thomson, Fisk, H. B. Weaver,	
Woodhull.....	33	kel.....	11	Victor Vaughan, Chapetoulou, Des-	
BERIBERI (GENERAL REVIEW)	6	Symptoms. Jasiewicz.....	8	comps, Rouillies, Ralph Stockman,	
Diagnosis. W. J. Buchanan, William		Treatment. Herman B. Allyn, Jasie-		H. A. Hare, von Ziemssen, Vol-	
B. Orne, M. T. Yarr.....	6	wicz, Folsenthal, Brosler.....	12	land, Vivant.....	22
Etiology. Lasnet, E. D. Bondurant...		LIVER, RUPTURE OF THE	35	TUBERCULOSIS OF THE LUNGS	37
Pathology. W. K. Hunter.....	7	Pathology. W. Moore.....	35	Etiology. Abbott.....	37
Symptoms.....	7	Treatment. Doyen.....	36	Diagnosis. Gage.....	37
Treatment. E. D. Bondurant, Do-		LOCOMOTOR ATAXY	36	Treatment. Landerer, Heuser.....	37
mingos Freire.....	8	Pathology. Langdon.....	36	TYPHOID FEVER	37
BLEPHARITIS	33	MALARIA (GENERAL REVIEW)	12	Diagnosis. Brill.....	38
Treatment. S. C. Ayres.....	33	Diagnosis. William Osler, J. F.		Pathology. Hosenpyl.....	37
CANCER (EDITORIAL)	25	Jenkins, Bedford Brown, William		REVIEWS	38
Treatment by Alcohol. Sajous.....	25	B. French, A. R. Edwards, Woldert.		Diseases of the Ear, Nose, and Throat.	
CARCINOMA	33	Pathology. W. G. MacCallum, Opie.	14	Bishop.....	38
Pathology. Thomson.....	33	Prophylaxis. Bedford Brown.....	12	Eye-strain in Health and Disease.	
CEPHALOPUS PNEUMONIA	34	Transmission. Welch, Laveran, Ru-		Ranney.....	39
Symptoms. Elsner.....	34	pert Norton, Ronald Ross, Bignami.		Manual of Static Electricity in X-ray	
DISINFECTION. Gemund.....	34	Treatment. E. C. Register, A. Celli,		and Therapeutic Uses. S. H.	
DISLOCATION OF THE CLAVICLE	34	F. S. Santori, Cardamatis.....	17	Monell.....	39
Treatment. T. L. Rhoads.....	34	MALARIAL HEMATURIA (GENERAL		Philadelphia Medical Journal.	
FILARIA OZZARDI. Manson.....	34	REVIEW).....	18	Gould.....	39
		Treatment. Editorial in Therapeutic		Practice of Medicine. Anders.....	38
		Gazette, Dawson, Tyson, J. W.		NEW BOOKS AND MONOGRAPHS RE-	
		Meek, H. A. Hare, Baccelli, Bas-		CEIVED	40
		tianielli, Tomaselli, Murri.....	18		

Cyclopædia of the Year's literature.

BERIBERI.

Diagnosis.—Vessels arriving from Brazil, Java, and other countries where the disease is endemic during the greater part of the time have always contributed a certain proportion of cases to the health reports of almost all the larger sea-ports. But isolated epidemics, traceable to no appreciable external source,

have been, to say the least, rarely recognized in the English-speaking countries of Europe and America. Those that have occurred at the Richmond Insane Asylum of Dublin and in our own country at the Bryce Insane Hospital at Tuscaloosa, Ala., and at the Arkansas State Asylum, at Little Rock, have been thoroughly reviewed in the medical journals

and need not be described here; but important, in this connection, is the fact that doubt has recently been expressed as to the identity of the affection represented as beriberi in these several outbreaks. W. J. Buchanan,¹ of Buxar, India, for instance, mentions the "persistent epidemic of the disease grotesquely called beriberi in the Richmond Asylum, Dublin," and points to the article on that disease in "Quain's Dictionary of Medicine" as an evidence of the confusion existing on the subject.

That text-books, in general, furnish insufficient data upon this disease precisely as they do upon many other affections is illustrated by Dr. William B. Orne.² He gives the name of an important work in which the subject is dismissed in two short lines, which run thus: "Multiple neuritis also forms a part of leprosy and of the endemic disease of Japan: *Kak-ké*, or beriberi." Being on the high seas at the time and unable to obtain further information upon an obscure case before him, he rightly charges the life sacrificed to the inadequate description at his disposal.

Surgeon-Captain M. T. Yarr, in an interesting letter to the *Lancet* (Nov. 6, '97), describes his personal experience in the same direction in the following words: "In the year 1887 I was stationed in Hongkong, and after a residence of a few months in the colony was placed in charge of the Civil Hospital for a short time pending the arrival of a newly-appointed civil surgeon. A few days after I took charge of the hospital a Chinaman was admitted suffering from what I diagnosed as locomotor ataxy. I thought some of the symptoms were anomalous, but, on the whole, was satisfied with my diagnosis. A few days later I was hastily summoned to find the patient (whom I had seen fairly well the same morning)

sitting up in bed, and with suffused face and starting eyes, gasping for breath; I had scarcely reached his bedside when he fell back dead. The necropsy showed only dilated heart. I attributed his death primarily to locomotor ataxy, and more immediately to paralysis of the right heart. Next morning the old Chinese ward-master, who had worked in the hospital for seventeen years, placed the blank death-certificate on my desk for signature. As I filled in the words 'locomotor ataxy' his impassive face lighted up and with the engaging candor of the Celestial employé he whispered in his pidgin English: '*My tink that peecee man die of beriberi.*'" John was right.

That these instances but illustrate errors committed in a large number of cases can easily be surmised. Beriberi, or, at least, a form of multiple neuritis bearing close analogy to it, must now be considered an affection of all latitudes, and not limited to the tropics. It merits adequate consideration in all works purporting to assist the practitioner in the exercise of his calling.

Dr. Buchanan,³ who has spent a part of his life in India, recognizes that the co-existence of malarial cachexia with either beriberi or anchylostomiasis, as very frequently happens in tropical countries, renders an exact diagnosis sometimes difficult, and it is this fact which, in countries where malaria is very common, has stood so much in the way of clear ideas on the above diseases. He gives the following distinguishing features:—

In beriberi (endemic neuritis) we must look for the characteristic cardiac and nerve symptoms and the reaction of degeneration.

¹ Dublin Journal of the Med. Sciences, Dec., '97.

² Lancet, Nov. 6, '97.

³ Dublin Journal of the Med. Sciences, Dec., '97.

In anchylostomiasis (parasitic anæmia) we must search for the worm after the exhibition of thymol, or else by microscopical examination of a portion of the excreta for the ova of the parasite.

In kala-azar (epidemic malarial fever), which is confined to Assam, we have the history of the sure and slow spread, and evidence of its infectiveness.

Another source of confusion is the relation borne by the different forms of neuritis to one another. Thus, "multiple neuritis," "peripheral neuritis," and "polyneuritis" are synonymous terms, and "alcoholic neuritis," "malarial neuritis," "syphilitic neuritis," "pseudo-tabes," etc., are all forms of multiple neuritis. Beriberi is also a variety of the latter, the endemic form.

Symptoms.—Two forms of beriberi are met with: the œdematous, sometimes termed the "wet," form, and the paralytic, or "dry," variety. The œdematous form is characterized by general anasarca, with the appearance of great anæmia. It usually begins with fever, which may be slight and intermittent. Œdema of the extremities then sets in, beginning usually over the dorsum of the foot and extending upward. As the serous effusion into the subcutaneous cellular tissue takes place, puffiness and numbness follow. A peculiar localized thickening of the tissues, or "solid œdema," is sometimes observed over the shin and in the thighs and chest. With the beginning œdema, cardiac symptoms are usually observed, this fact having caused some authors to attribute the effusions to the venous stasis resulting from dilatation of the right ventricle. The heart's action is irregular, rapid, palpitating, and frequent, the systole being somewhat increased in force and louder at the apex. Loud, blowing murmurs, resembling the *bruit de diable* of exophthalmic goitre,

with violent pulsation of the blood-vessels in the neck, are present, as a rule.

Etiology.—Among the most probable etiological factors are the insanitary conditions incident upon overcrowding. In the Richmond Asylum, at Dublin, such a condition of things is said to have prevailed. It is probable that the infectious principle was introduced in contaminated food or clothing and that its continuance was sustained by the weakened resisting powers of the inmates. Much light is shed upon the question by the remarkable fact that in the Alabama asylum epidemic those attacked showed degenerative stigmata.

At the Dakar prison in Senegal, western Africa, the total number of prisoners under observation in 1895 was 647, of whom 52 were Europeans, the remainder being natives. The two classes lived under identical conditions; whereas no European or mulatto contracted beriberi, there were 45 cases among the aboriginals. Length of residence in the jail and want of occupation, together with overcrowding, defective ventilation, inadequate provisions for cleanliness, and the removal of filth were the chief determining causes. The affection generally commenced toward the third month of incarceration. Compulsory exercise was invariably followed by an amelioration of symptoms, but, if the patient remained in prison, a relapse ending fatally was sooner or later certain to supervene. Of twelve prisoners suffering from beriberi for whom pardon was asked in order that their lives might be saved, five were dead before the official release-documents reached Dakar three months later. The seven survivors were at once set at liberty, and eventually all of them recovered. That unhygienic conditions are an important factor, but that the chief cause of the disease is the

lack of suitable employment, is the conclusion reached by the medical officer of the Dakar prison, Dr. Lasnet.¹

In the epidemic at the Alabama Bryce Asylum a most remarkable feature of the disease was exhibited in its peculiar distribution among the several classes of insane patients. Everyone of the 71 patients attacked was the subject of a psychical degenerative form of mental disorder. (See wood-cuts.) Dr. E. D. Bondurant,² who reports these cases, observed that, while some had previously suffered from chronic renal troubles or other impairment of health, it was, speaking generally, not the physically—but the mentally—enfeebled who fell victims to the disease. There were 80 epileptics in the hospital; of these, 32 had beriberi. The remaining 39 cases occurred in imbeciles, paranoiacs, and those terminal dementeds showing marked degenerative stigmata. No patient having an acute or curable form of insanity took the disease; no one of the 600 or 700 patients actively employed in work on the farm, shops, laundry, or elsewhere, was attacked; and no case occurred among the 200 employés of the institution.

Pathology.—W. K. Hunter³ contributed a valuable study of two cases, including inoculation experiments, tending strongly to show that the staphylococcus of Pekelharing and Winkler is the specific micro-organism of beriberi.

Although Fiebig has argued that it has the same characters as staphylococcus pyogenes albus, and that it is the same organism, the pathogenic characters of the two are very different. The staphylococcus pyogenes albus injected into the abdominal cavity of a rabbit would produce septic results. In not one of six rabbits did an abscess form at the seat of inoculation, and in not one was

any inflammatory condition of the peritoneum to be made out.

Treatment.—The obvious indication in this as in other forms of multiple neuritis is removal of the cause. In the cases seen by Bondurant⁴ cathartics, especially calomel and magnesium sulphate, gave in many undoubted relief, diminishing the intoxication symptoms, as well as the œdematous effusions. For the relief of the pain morphine and coal-tar derivatives were employed, the former being found the most efficacious. Hot applications occasionally gave some relief. Quinine produced no visible effect in any instance. Heart-stimulants—digitalis, strophanthus, strychnine, etc.—were seemingly powerless to modify the cardiac weakness or distress, as were also the hypodermic injections of camphor used in a few cases. After the acute stage was passed tonics were used, and to aid in the restoration of function to paralyzed muscles electricity and massage were given quite generally, with probably some benefit.

We well recall the fact that in 1895 Domingos Freire found that strychnia, in gradually increasing doses until slight toxic phenomena are produced, is capable of bringing about a cure even when the paralysis is complete. The treatment is begun with $\frac{1}{60}$ grain, and the same quantity is added every third day until $\frac{1}{6}$ grain is taken. If the disease should return, the initial dose of $\frac{1}{60}$ grain should again begin the course of treatment.

INFLUENZA.

Symptoms.—Jasiewicz⁵ describes a variety characterized by bilious vomiting.

¹ Archives de Méd. Navale et Coloniale, Feb., '97.

² N. Y. Med. Jour., Nov. 20, '97.

³ Lancet, July 31, '97.

⁴ New York Medical Journal, Nov. 27, '97.

⁵ Jour. de Méd. de Paris, June 6, '97.



1

2

3

TYPES OF DEGENERATES MOST LIABLE TO BERIBERI. (*Bondurow.*)

1. Imbecile, illustrating type of degenerate most liable to beriberi.
2. Paranoiac imbecile, illustrating type of degenerate most liable to beriberi.
3. Negro paranoiac, of a degenerate type which seemed especially susceptible to the poison of beriberi.

The onset is sudden, occasionally there is a chill. Bilious vomiting occurs early and is abundant and sometimes obstinate. There may be anorexia, flatulence, marked abdominal swelling, pains localized in the right iliac fossa, constipation, headache, and more or less profuse night-sweats.

Aural Complications.—W. P. Eagle-ton¹ states that of the cases of catarrhal otitis which so frequently complicate influenza, giving rise only to slight pain and transient deafness, little need be said, as they differ in no way from the simple cases, but the cases that go on to suppuration may present one of three conditions that are distinctive, all probably due to the direct influence of the presence of Pfeiffer's bacillus:—

1. Distinctive types of hæmorrhagic otitis.

2. Primary mastoiditis or periostitis before the involvement of the middle ear, due apparently to direct infection by the bacillus and not to extension from the naso-pharynx.

3. Rapid caries and necrosis of the ossicles or mastoid (of very frequent occurrence).

In addition there are minor points of difference from the simple cases, such as the greater severity of the pain and its longer duration, the more frequent persistence of the tinnitus, and the occasional serious involvement of the labyrinth after apparently slight affections of the middle ear.

There are three distinct forms of influenzal otitis with hæmorrhages into the membrana tympani, which, however, if properly treated, do not unfavorably affect the course of the disease, although the invasion is apt to be severe.

Gorman Bacon² observed that, as the usual antiphlogistic treatment is less efficacious in cases of influenzal otitis than

in simple, uncomplicated cases, it is of the highest importance that a free incision should be made in the drum-head at the commencement of the disease, followed by frequent douching of the ear with antiseptic solutions. When the mastoid cells are involved, and the disease has not yielded to the treatment commonly used in such cases, it is advisable to perforate the mastoid at an early date, on account of the destructive nature of the secretion, which otherwise may lead to a rapid caries or necrosis.

Pregnancy.—Démelin,³ in an article on influenza in its connection with pregnancy and confinement, states that, while some authors think that abortion is not more frequent from influenza than from any other cause, others believe the contrary. Ruffie, for instance, believes that grippe influences pregnancy in nearly the same proportion as cholera, small-pox, typhoid fever, and malarial fever, and that abortion is produced in 41 per cent., and premature confinement in 27 per cent. of cases of influenza. The hyperpyrexia, uterine hæmorrhage, rupture of the membranes, as a result of cough, have been rightly considered as etiological factors. It is especially after labor that it is important to recognize influenza and not mistake it for puerperal infection. Headache, chills, fever, collapse, nasal obstruction, cough, and normal or slightly elevated temperature are the prominent symptoms of a light attack of influenza. When the attack is more serious, however, in from three to five days a chill occurs, the temperature ranges from 102° to 104° F., and symptoms of an intense bronchitis, pneumonia, or broncho-pneumonia appear. Frequently at the end of three weeks

¹ N. Y. Med. Jour., Aug. 7, '97.

² Archives of Pediatrics, Sept., '97.

³ Jour. des Prat., Oct. 24, '96.

there is general improvement and the patient seems to be recovering. This condition is generally deceptive, as the fever and the pulmonary symptoms return, continue for some weeks, and only gradually disappear.

Influence on Birth-rate.—Engel¹ calls attention to the fact that, during the 1890 influenzal epidemic, the number of births in Hungary were 41,866 less than during previous years, during the following three years; during September and October alone in 1890, there were 19,768 less children born than in the same months of other years. Mueller has previously expressed the opinion that a great proportion of influenzal cases also have affections of the genital organs, hæmorrhage from the uterus, usually associated with severe pain, being very frequently observed. Metrorrhagia may even follow amenorrhœa and disorders of the pelvic organs are likely to be accentuated; tumors increase in size with unusual rapidity and cystic disorders often appear. The author attributes these untoward effects to general hyperæmia, hæmorrhagic endometritis being the result.

Peripheral Neuritis.—Herman B. Allyn² says that the great majority of cases of multiple neuritis following influenza are, in reality, instances of peripheral neuritis: an intoxication of the nerve-trunks; this may be sufficient to produce rapid destruction of the nerve-fibres or just enough to cause pain by irritation. This is sustained by the fact that the salicylates are useful in these cases, owing to their power of promoting the elimination of some toxic agents. He concludes that: 1. Influenza, like other infectious diseases, may be followed by neuritis and multiple neuritis. 2. One sex does not seem to be more liable to multiple neuritis than the other. 3. It

occurs most frequently between the twenty-fifth and forty-fifth years, and appears during convalescence in a few days or two or three weeks after the influenza has subsided. 4. It may present sensory, motor, vasomotor, or trophic symptoms, or all combined; but sensory and vasomotor symptoms are more prominent than in diphtheritic and some other causes of multiple neuritis.

The great majority of cases recover as regards restoration of function and power, as well as regards life. Five of the patients in Dr. Allyn's thirty-six cases referred to in his paper died. In one of Bruns's cases the symptoms resembled those of Landry's paralysis; in the other there was paralysis of the tongue and throat. In Eisenlohr's fatal cases there was general motor paralysis with intense hyperæsthesia of the skin. In Ferguson's case the neuritis was visceral and in Leyden's fatal case there was coincident diseases of the cord.

Pulmonary Complications.—A. Fraenkel,³ among 272 cases of influenza treated in his clinic, found symptoms of broncho-pneumonia in 80, while 6 of these had pulmonary gangrene. He draws attention to the remarkable rapidity with which pulmonary gangrene and rupture into the pleural cavity may occur. In one case reported by Rhyner, symptoms of pneumonia appeared on the sixth day, and on the same evening the breath was foetid; on the next day there was putrid expectoration. In two cases of his own putrid pleurisy appeared suddenly, and, in another, early in the disease. The empyema was quickly relieved by paracentesis, a large quantity of foetid pus being evacuated. Recovery ensued in both. Dr. Fraenkel also states that

¹ *Centralb. f. Gynäk.*, No. 24, '97.

² *Jour. Amer. Med. Assoc.*, July 24, '97.

³ *Berliner klin. Woch.*, April 12, '97.

in influenzal pneumonia, which is characteristically lobar, the inflammatory process spreads from the bronchi to the alveolar passages and alveoli, the latter being densely and almost exclusively filled with leucocytes, which by their number not only insinuate themselves between the epithelial cells, but also cause a partial detachment of the epithelial lining.

Treatment.—Herman B. Allyn¹ states that the treatment should consist, first, in absolute rest in bed. Anodynes must be given in sufficient dose to relieve pain, when that is a prominent symptom. Morphine hypodermically may be necessary, but may often be replaced with advantage by codeine. The antipyretic anodynes are insufficient in any safe dose if the patient has pains for many days. The salicylate of cinchonidine is distinctly valuable, especially when the pain is not of the greatest intensity. At a later stage potassium iodide and the bichloride of mercury in small doses are helpful. When the pain is in an extremity, firm pressure with a flannel bandage gives great comfort. Blisters over the painful nerve-trunks, when they are superficial, are also valuable in relieving the pain.

Close watch must be kept on the action of the heart and the character of the breathing. In most of the fatal cases death is due to paralysis of the diaphragm. The closest attention must be given throughout the course of the case to the nutrition of the patient and to the condition of the skin, especially over portions of the body where pressure occurs. So far as possible, the stomach should be reserved for food. Medicine in these cases acts better when given hypodermically, and the stomach is not so likely to be deranged. This caution applies especially to the giving of anodynes.

CALOMEL.—In the form characterized by bilious vomiting, Jasiewicz² states that the most effective treatment should consist in the use of purgatives, preferably calomel.

Felsenthal³ found that calomel administered before the third day after the onset of the disease cuts it short and prevents complications. When he sees the patient before the third day after the onset of the disease, he gives 3 grains in two doses to men, $2\frac{1}{2}$ grains in three doses to women, and to children $\frac{1}{7}$ grain for every year of their age. In from six to ten hours the temperature falls and all symptoms improve. Abundant diaphoresis is also encouraged by hot beverages.

KRYOFIN.—Bresler⁴ tried kryofin as an antipyretic in 16 cases of influenza, in some of these antipyrin and phenacetin being also employed for comparison. Kryofin seemed more to prevent a rise of temperature than to cause reduction; if, therefore, a rise is expected, it may, as a rule, be forestalled. When this did not occur, antipyrin was also found ineffectual. In one case 15 grains of antipyrin acted more rapidly and persistently than half the quantity of kryofin, while 7 grains of phenacetin gave no results. The subjective condition was much improved by kryofin, and diaphoresis was often induced. Bresler recommends $7\frac{1}{2}$ -grain doses as an antipyretic and anti-influenzal remedy, which is to be preferred to equal quantities of antipyrin or phenacetin.

MALARIA.

Transmission.—Welch⁵ states that at the present time there are only two the-

¹ Jour. Amer. Med. Assoc., July 24, '97.

² Jour de Méd. de Paris, June 6, '97.

³ Revue Méd., Dec. 8, '97.

⁴ Therap. Monats., Oct., '97.

⁵ Johns Hopkins Hosp. Bull., March, '97.

ories as to the mode of transmission of malarial infection which are worthy of consideration,—namely, that it occurs aërially or by inoculation through the agency of suctorial insects. Laveran¹ argues that if the transmission of malaria is aërial only, there are certain localities close to sources of malaria the freedom of which from infection cannot be explained. Transmission by drinking-water he considers as more probable and he mentions the fact that malarious countries have been traversed with impunity by drinking only boiled water, while villages have witnessed the disappearance of fever as the result of a supply of pure water. He quotes the experiments of Marino, Leri, and Baccelli, however, to show that the theory of water-borne malaria is not altogether tenable.

According to Rupert Norton,² up to now the malarial parasite has not been discovered outside of the human body. All attempts to grow it on artificial media have failed, and its presence in water supposed to be malarial is not established. He refers to Celli and Marino, who have cited instances in which water from the Pontine marshes, notoriously malarious, had been drunk without causing any symptoms of the disease. Many cases, he thinks, especially those of a prolonged type, may be due to some autointoxication from the intestine.

Returning to Dr. Welch's remark, that the agency of suctorial insects was at present regarded as one mode of transmission, reference may be made to an anonymous writer³ who had noticed a cottage perched upon the top of an ancient mammoth tombstone on the Appian Way near Rome. In this cottage dwelt an Italian peasant with his wife and little ones, who required the services of a ladder nearly twenty feet in length to reach

their melancholy dwelling, located in that situation in virtue of a belief in those countries that persons dwelling in malarious regions are less likely to take malarial fever if they protect themselves from the bites of mosquitoes.

Two years ago Manson⁴ produced in the human subject attacks of typical malaria by the imbibition of water inoculated from the bodies of mosquitoes which had bitten persons suffering at the time from malarial fever. Laveran⁵ states that he has long thought that malaria was transmitted through the agency of the mosquito. Draining the soil causes mosquitoes to disappear, while the prevailing idea in Europe, that retiring with the window open or going out at certain hours in certain regions is dangerous, may be ascribed to the fact that these insects enter the rooms or are more active at night. He believes that they become contaminated by sucking the blood, and that once within the host the hæmatozoön undergoes a series of transformations, which enables it, on the death of the mosquito, to resist destructive agencies, and thus reach the human being, either by water or air.

Surgeon-Major Ronald Ross⁶ also agrees with Manson in the belief that the mosquito acts as an alternate host, each species of parasite requiring for its propagation a special species of mosquito. If the latter be absent in a locality, though many other mosquitoes may be present, the parasite cannot exist there.

Dr. Bignami⁷ conducted a series of experiments tending to show that mosquitoes are not transported by the wind to the extent generally supposed. The

¹ Presse Médicale, Jan. 20, '97.

² Johns Hopkins Hosp. Bull., March, '97.

³ Modern Med. and Bac. Review, April, '97.

⁴ British Med. Jour., Mar., '96.

⁵ Presse Médicale, Jan., '97.

⁶ British Med. Jour., Jan. 30, '97.

⁷ Modern Med. and Bac. Review, April, '97.

insect avoids being carried off by strong winds by hiding in thick brush, grass, and trees. It is also nocturnal in its habits, always flies near the ground, especially around pools, all features fully fitted to thoroughly associate it with malarial agencies. It deposits its eggs in water or in damp places; from the eggs are hatched larvæ, which, very voracious, devour everything they encounter, among other things the bodies of the dead mosquitoes and the envelopes from which they have emerged. They then pass into the state of nymphæ, from which emerge the young mosquitoes. During this long period of life in damp soil or in water, and especially in the state of larvæ, they impregnate themselves with malarial germs. Only the female mosquito, however, attacks man.

These views are sustained by Ronald Ross,¹ whose experiments seem to confirm the views of Manson, that the flagella of the hæmatozoön are flagellated spores, intended for the continuance of the life of the parasite within some suctorial animal, and that the flagella arise from spheres, which, in turn, arise from the crescents.

Pathology.—Very interesting in this connection, and by far the most valuable work of the year, was a study of the process of fertilization in the malarial parasite. At the meeting of the British Association last August, W. G. MacCallum, of Baltimore, described observations made upon the malarial parasites of birds. His co-worker, Opie, had noticed two distinct adult forms of the halteridium of Labbé: one hyaline, non-staining form, and one granular, and taking on a comparatively dark stain with methylene-blue. He also believed that the hyaline form became flagellate, while the other did not. MacCallum confirmed these observations and ob-

served that the hyaline forms alone became flagellate, while the granular forms were extruded from the corpuscles and lay quietly as spheres among the red cells in which they had previously been contained.

In a more recent paper² MacCallum reviews the results of his labors as follows:—

“Frequently in slides of the blood of infected crows there appear, after standing from twenty to thirty minutes, elongated motile forms such as were described by Danilewsky as vermiculi in his ‘Parasitologie Comparée du Sang’; and in order to trace their origin it is necessary to observe closely the changes in the other forms seen in the blood. Only the mature forms of the organism are seen to undergo any changes in the fresh slide of blood, the half-grown and younger forms remaining unchanged for a long time. The mature forms become rounded off, and are extruded from the corpuscle, which remains as a shadow lying in the plasma.

“Both in the fresh and in the stained specimens of blood there can be seen differences which sharply distinguish two forms of the organisms. The forms are identical in outline, but the protoplasm of one is granular and opaque as compared with the clear hyaline protoplasm of the other. This distinction is well brought out in the stained specimen, in which the hyaline form remains almost entirely unstained, while the other takes on a well-marked blue stain with methylene-blue. Of these it can be determined that the hyaline forms alone become flagellated.

“These two forms, then, become extruded alike from the corpuscle and lie free in the plasma, but generally only a

¹ British Med. Jour., Jan. 30, '97.

² Lancet, Nov. 13, '97.

very short time elapses before the hyaline forms become flagellated, according to the process so often and so accurately described by workers on malaria. The granular forms lie quiet beside the nuclei and shadows of the red blood-corpuscles that lately contained them, but are soon seen to be approached by the flagella, which, having torn themselves away from the hyaline organism from whose protoplasm they were formed, struggle about among the corpuscles. These flagella, which so concentrate their protoplasm as to form a head, swarm about the granular spheres, and one of them plunges its head into the sphere and finally wriggles its whole body into that organism. Immediately on the entrance of this flagellum it seems to become impossible that another should enter, for they may be watched circling about, vainly beating their heads against the organism. The flagellum which has entered continues its activity for a few moments and the pigment of the organism is violently churned up. Soon it becomes quiet again, and remains so for from fifteen to twenty minutes, when a conical process begins to appear at one side of the organism, the pigment collecting mainly to the opposite side. This process grows larger and the pigment becomes more and more condensed, until finally we have a fusiform organism with a small spherical appendage crowded with pigment at one end. The other end is hyaline, and the pigment-granules which are not crowded into the small appendage are distributed superficially over the posterior part of the body. This spindle-shaped organism moves forward with a gliding motion, sometimes turning at the same time on its long axis, sometimes going through amoeboid contortions. Red corpuscles lying in its path are either punctured by the hyaline

anterior end, so that the hæmoglobin is enabled to escape into the plasma, or passed over and dragged along by the adhering posterior extremity.

"In an intense infection a great destruction of corpuscles occurs; thus in a fresh slide after standing some time even leucocytes may fall victims to the destructive force of these organisms, which have been seen to dash through them, scattering the granules into the plasma. As to the ultimate fate and true significance of these forms nothing definite can as yet be stated. In the slide they keep in motion for a long time, but finally quiet down and disintegrate. The idea suggests itself from their great power of penetration that they may be the resistant forms that escape from the body during life into the external world. The whole process described above seems to be a sexual process analogous to the sexual process seen in the lower animals and plants which occurs under unfavorable conditions and results in the formation of a resistant 'spore.'

"Recently I have examined the blood of a woman suffering from an infection with the æstivo-autumnal type of organism in which a great number of crescents were to be seen. These, in the freshly-made slide of blood, with very few exceptions, retained their crescentic shape for only a few minutes (this activity in the change of form varies greatly in specimens of blood from different patients). They soon drew themselves up, thus straightening out the curves of the crescent, while shortening themselves into the well-known ovoid form. After the lapse of from ten to twenty minutes most of them were quite round and extracorporeal, the 'bib' lying beside them as a delicate circle or 'shadow of the red corpuscle.' After from twenty to twenty-five minutes certain of the

spherical forms became flagellated; others, and especially those in which the pigment formed a definite ring and was not diffused throughout the organisms, remaining quiet and did not become flagellated. The flagella broke from the flagellated forms and struggled about among the corpuscles, finally approaching the quiet spherical forms. One of them entered, agitating the pigment greatly, sometimes spinning the ring about; the remainder were unable to enter, but swarmed about, beating their heads against the wall of the organism. This occurred after from thirty-five to forty-five minutes. After the entrance of the flagellum the organism again became quiet and rather swelled; but, although in the two instances in which this process was traced the fertilized form was watched for a long time, no form analogous to the vermiculus was seen."

Diagnosis.—William Osler¹ states that north of Mason and Dixon's line physicians are prone to diagnose malaria for other diseases; south of the line they are more prone to diagnose other diseases for malaria; in both regions it is a source of greater errors in vital statistics than any other affection.

Referring to Osler's remark, J. F. Jenkins² observes there are many localities in his State (Michigan) as well as other States north of Mason and Dixon's line, where malarial fever still prevails, especially during the autumnal months, and that in these sections it is frequently found a difficult question to determine whether the patient has malarial fever or typhoid fever. Sporadic cases occurring in country-districts and very generally in villages are not infrequently diagnosed malarial fever, while the deaths reported to local boards of health under the name

of malarial fever are, he thinks, usually due to typhoid fever.

An interesting diagnostic point noted by Dr. Jenkins is that in malarial fever the pulse-rate will not be very much increased by taking the patient suddenly from bed and placing him in the upright position, while in the incipient stage of enteric fever the pulse-rate is greatly increased by such a change of position. In the early stage of typhoid fever this alteration of position will frequently assist in determining the nature of the fever.

Bedford Brown,³ of Alexandria, Virginia, also refers to a type of autumnal fever that appears annually between the 10th and 15th of August in Virginia, and continues until hard frost has set in, when it ceases as suddenly as it began. Some of the attacks present symptoms analogous to typhoid fever. The temperature-curve of this prolonged remittent type and that of typhoid fever are almost identical, while many of the prodromal symptoms are similar. There are, however, no iliac gurgling, no rose spots; no tympanites, but rather retraction of the abdomen; and no intestinal hæmorrhage. The only test is the recognition of the malarial parasite.

William Osler⁴ states that a widened experience has only served to strengthen the conviction that, in the practical diagnosis of the infectious diseases, the discovery of the hæmatozoa of malaria by Laveran takes rank with the finding of the tuberculosis bacillus by Koch. The irregular types of malarial fever are remittent fevers, which simulate typhoid of certain pernicious types with special localization. The parasite is very scanty at first in the peripheral blood, and many

¹ Med. News, March 6, '97.

² Med. Record, Oct. 30, '97.

³ Charlotte Med. Jour., Jan., '97.

⁴ Med. News, March 6, '97.

slides may need to be examined before it is seen; in the end, however, the characteristic crescents are sure to be met with. Quinine checks this form in two to four days, if properly administered. Malaria with typhoid features is not uncommon.

In the course of a study of the malarial fevers in the District of Columbia, Dr. William B. French,¹ of Washington, examined one hundred and five cases of known and suspected infection, the ages of the patients ranging from one year to eighty-seven years, and in ninety-four the organism of malaria was found. In six cases pigmented leucocytes only and free pigment were observed, while in five cases the result was negative. A number of interesting conditions were seen in the blood at times. Phagocytosis was not uncommon. A few segmenting forms were met with, but more often their pigment clumps were found free or in the leucocytes. In a few instances two or three and in one case four ring-like forms were seen in one red cell. In all cases the blood was drawn from the lobe of the ear and used in its fresh state. Especially interesting is the fact that the author found two cases of pulmonary tuberculosis complicated by the presence of the malarial organism: the first of the kind he had met. Their blood showed crescents and free pigment-blocks in one and ring-like bodies in the other. Tubercle bacilli were found in the sputum of each.

A. R. Edwards² observed that the parasite in tropical types was smaller, while in the tertian they were as large or even larger than the red corpuscles of the blood. In the pernicious types the blood-corpuscles are shrunken, become darker, or completely decolorized, and transparent. Crescents are only found in the æstivo-autumnal cases. He argues that, while fever is a symptom of ma-

larial infection, it is a conservative process, killing the parasites, phagocytosis being most marked during paroxysms.

Woldert³ states that the forms of parasite present in the blood during the different stages of tertian, quartan, and æstivo-autumnal malarial fevers can easily be separated from one another by an examination. Quinine probably changes the type of the fever from the quotidian to the tertian by destroying one of the groups of organisms at the time of their segmentation.

Osler⁴ observes that simple intermittents are characterized by a paroxysm, developing at the end of forty-eight hours, if a single group of parasites be present; if two groups exist, one of which matures every day, the paroxysms develop at the end of twenty-four hours. The blood shows hæmatozoa in all stages, and quinine causes their rapid disappearance.

Treatment.—E. C. Register⁵ states that quinine is very imperfectly absorbed when given by the stomach and when the patient has a temperature of over 102°. In case of continued malarial fever, if distinct and well-marked intermissions of the fever are produced artificially by the use of antipyrin, antifebrin, and phenacetin, the crescentic and ring-shaped bodies will disappear after the administration of quinine as quickly as the spherical bodies that are found in an ordinary case of intermittent fever.

As is well-known, the blood-serum of animals naturally immune has no influence upon the course of malaria. A. Celli and F. S. Santori⁶ experimented

¹ N. Y. Med. Jour., April 24, '97.

² Chicago Med. Record, Aug., '97.

³ Med. News, Feb. 13, '97.

⁴ Med. News, Mar. 6, '97.

⁵ Atlanta Med. and Surg. Jour., Sept., '97.

⁶ Centralb. f. Bakt., Parasit., u. Infr., Jan. 20, '97.

with serum of animals exposed to malarial infection: buffaloes, horses, etc., kept in the most malarial districts around Rome. Six persons treated with serum were subsequently inoculated with malarial blood; others were selected who were obliged to live in malarial districts. The first received 10 cubic centimetres subcutaneously, varying from 10 to 4 days. Three of those inoculated with blood from a quartan patient passed the longest incubation period observed without manifestations of the toxæmia. In the other three the blood of a case of marked æstivo-autumnal fever was injected, and simultaneously into a non-protected control subject. In the former, fever appeared 25 days after inoculation. In the latter, fever appeared in the control subject in 43 hours; in a man treated with buffalo in 30 hours; in one treated with horse-serum in 6 days; and in one treated with ox-serum in 17 days. The conclusion was reached, therefore, that preventive treatment with the serum of naturally immune animals exposed to malarial infection prolongs the incubation period of experimental malarial fever in man.

Cardamatis, of Athens,¹ states that methylene-blue should only be used in simple intermittent fevers, and that it would be dangerous to substitute it for quinine in the treatment of continued fevers and in grave cases. It is only indicated, when, for some cause, the use of quinine is contra-indicated, especially when, even in small doses, it produces hæmoglobinuria. The daily dose in the adult is from 9 to 15 grains; sometimes it produces a slight cystitis, that ceases when the drug is discontinued.

Prophylaxis.—Bedford Brown,² alluding to the form described by him, insists upon the necessity of drinking only distilled or sterilized water or water ob-

tained from the deep Artesian wells. Quinine is of little use unless given in large doses (not in pill form), 50 grains being given within the thirty-six hours preceding a chill, in 10-grain doses, in the intermittent type. In severe attacks he adds 5 grains of phenacetin and 3 of acetanilid every two hours, and regards cold sponging as an excellent adjuvant to the quinine. In the prolonged form, 20 grains in quinine in three doses per day are sufficient. Nitroglycerin combined with quinine he found of great value in the pernicious variety.

MALARIAL HÆMATURIA.

Treatment.—The Therapeutic Gazette, in a review of "The American Text-book of Applied Therapeutics," does not coincide with Dr. Dawson, who recommends quinine in malarial hæmaturia, and the editorial writer is sustained by Dr. Tyson. In an article on the same subject J. W. Meek³ reminds his readers of the fact that in the Therapeutic Gazette for July, '92, Dr. H. A. Hare had made an effort to collect the experience of medical men who had had to deal personally with this disease, and that, in reply to his inquiries, received the following information from physicians practicing in Texas, Mississippi, Georgia, and Alabama: Nineteen physicians, whom he classed as "inexperienced," regarded quinine as "useful" in this disease; but twenty-eight—"experienced"—regarded it "harmful." This is a decided majority of "experienced" clinicians against its utility. Dr. Meek suggests that those classified as inexperienced had doubtless based their opinion upon the teachings of text-books, and that experience with the malady changes the views of a large majority.

¹ Gazette des Hôp., April 15, '97.

² Charlotte Med. Jour., Jan., '97.

³ Therap. Gaz., May 15, '97.

The views of Italian physicians are particularly valuable in this connection. Their great experience, owing to the numerous malarial districts of their country, added to their innate acumen, enables them to advance an authoritative opinion on the subject.

Baccelli¹ attributes hæmoglobinuria of malaria, not to the hæmoparasite, but to its toxins. Quinine may bring it on even in moderate doses. He recognizes four classes: (1) pernicious malaria with hæmoglobinuria cured by quinine; (2) mild attacks of malaria accompanied by hæmoglobinuria only when quinine is given; (3) hæmoglobinuria coming on in persons who have had malaria some time ago, and not associated with quinine; (4) hæmoglobinuria produced by small doses of quinine in persons who have had malaria previously. He advises continuing the quinine in spite of the hæmoglobinuria, if the malarial attack require it. He also recommends persulphate of iron and inhalations of oxygen.

More to the point are the views of Bastianelli,² who regards it as practically proved that hæmoglobinuria occurs only in infections with the æstivo-autumnal parasite. An interesting observation is that hæmoglobinuria following quinine is extremely rare in Italy, no case having ever been reported from the Campagna. The frequency with which these cases occur increases as one passes southward. Hæmoglobinuria due to quinine never occurs, excepting in patients who are suffering or who have recently suffered from malarial fever.

The hæmoglobinuric attack is produced every time quinine is administered, whether it be given while the malarial attack is in progress (Tomaselli) or whether it be given when the malarial infection has run its course (Murri). Extremely small doses are capable of

bringing on an attack. Quinine hæmoglobinuria has been seen in patients who have already suffered from spontaneous hæmoglobinuria (Murri). The preceding malaria creates the fundamental disposition, the existing malaria the accidental disposition, and the quinine the provocative agent.

Quinine hæmoglobinuria is divided into two forms:—

1. That occurring during the paroxysm,—paroxysmal quinine hæmoglobinuria.

2. Postmalarial quinine hæmoglobinuria.

In these varieties quinine, through a very considerable length of time, will produce an hæmoglobinuria whenever administered. There are, however, instances where the hæmoglobinuria due to the taking of quinine occurs only now and then during the paroxysm. These cases are rare.

As regards treatment, Bastianelli argues that the course to be pursued depends upon the blood-examination. If hæmoglobinuria occurs during a malarial paroxysm and parasites are found in the blood, quinine should always be given. If, however, no parasites are found, either as a result of previous administration of quinine or on account of the spontaneous disappearance of the organisms, we may remember that the administration of quinine will have no effect upon this attack and that, for the time being, certainly another attack is not to be expected. In these cases Bastianelli considers quinine as contra-indicated owing to the possibility that the paroxysm may have been due to its previous administration.

¹ Pollicin. Jan. 15, '97.

² Le Emoglobinuria da Malaria, secondo i recenti Studi; Annali di Medicina, Anno II, Fasc. XI, from an excellent review in the Amer. Jour. Med. Sciences, by Dr. Thayer.

If in an attack occurring in the middle of an ordinary malarial paroxysm there arises doubt as to its origin from quinine, it is well to abstain from the further administration of the remedy, for the quinine already given is usually sufficient to hinder the development of new febrile paroxysms. But, if, in an hæmoglobinuric attack which has come on after the giving of quinine, the parasites are still found in the blood, one is justified, despite the danger, in insisting upon the specific treatment; if there be doubt as to the origin from quinine, we may be sure what the result will be if we allow the parasites to go on developing, and it is, therefore, safer to interfere.

Dr. Meek, who, as already stated, objects, with other American authorities, to the use of quinine, recommends the following treatment: 1. Sodium hypsulphite in drachm doses every two hours until the patient is thoroughly purged; continued in smaller doses until the system is saturated with it. This is a stimulant to the hepatic secretion, causing, in large doses, an abundant biliary secretion; and is also a valuable intestinal antiseptic. He believes that free sulphurous acid is disengaged in the blood, and that this agent is an antizymotic to such an extent that it destroys the microorganisms that are the real cause of the disease, and thus arrests the process of corpuscular disintegration. 2. Morphine and atropine hypodermically, sufficient to quiet the stomach; and blisters over the epigastrium, if necessary. 3. An abundance of water to wash out the coagula that must necessarily accumulate in the urinary tubules after a hæmorrhage. Hot water or hot lemonade is frequently better borne by the stomach than cold. Cupping over the loins is also to be recommended. 4. A mild diet; fresh butter-milk is usually well borne, and

also acts as a mild diuretic. 5. The patient should remain in a strictly recumbent position.

Malarial Retinal Hæmorrhage.—

Closely associated with malarial hæmaturia, and capable, perhaps, of affording some light upon the latter, is retinal hæmorrhage. It will be remembered that last year a French army-surgeon, Dr. Bassères,¹ noted, among soldiers of the Madagascar expedition, twelve cases of this condition, in all of which the cause was undoubtedly malaria, the author believing himself justified in excluding albuminuria, cardiac diseases, and other conditions as etiological factors. The hæmorrhages occurred suddenly, without painful phenomena, either at the height of the attack or in the subsequent period of anæmia or cachexia; and in most of the patients the spleen was much enlarged. The site of the hæmorrhage was, in the majority of the cases, close to the disc, the macula being also affected in some cases. In five out of the twelve cases the lesion was unilateral, and there was usually more than one patch. The blood was absorbed rather rapidly, and, in the majority of the cases, great improvement in vision occurred simultaneously. The author attributed these hæmorrhages to parasitic thrombi, though the blood may have escaped through the wall.

TUBERCULOSIS OF THE LUNGS.

Etiology.—H. B. Weaver² argues that malnutrition is the starting-point of all tubercular processes. While the bacillus of Koch is, perhaps, the most important of the several microbes that influence the progress of the lesion in the various forms of the disease, yet it does not of itself originate the malady in any form.

¹ Arch. d'Oph., June, '96.

² Jour. Amer. Med. Assoc., Nov. 13, '97.

Both factors, the dyscrasia and the bacillus, must exist in combination before there can be tuberculosis. Defective nutrition, which may be general or acquired, is the fundamental primary factor, and Koch's bacillus, which is infective in its nature, is the modifying secondary factor in the causation of phthisis.

Diagnosis.—Cog-wheel inspiration is a valuable early sign of pulmonary tuberculosis, according to J. P. Arnold.¹ It was present in cases when there were no changes in the percussion-note or in the vocal resonance; when there was neither cough nor expectoration. While it is true that this peculiar form of inspiration may be caused by other conditions than that of beginning tuberculosis, its occurrence immediately below the clavicle, especially on the left side, should always arouse suspicion, especially where there is an hereditary tendency, history of exposure to infection, or any progressive failure of health and strength without other assignable cause.

The application of tuberculin to suspected cases will often throw much needed light upon them, enabling the physician to reach a positive conclusion, and in the opinion of E. L. Trudeau² will give the patient all the chances of recovery that lie in the detection of the disease at such an early stage: before extensive lesions have developed or secondary infection has occurred. In view of the demonstrated accuracy of this test when applied to cattle and to other animals artificially inoculated in the course of laboratory research, where its correctness can be controlled by autopsy, the author considers it as remarkable that a method which has proved itself so generally reliable in detecting the disease in animals, and which offered such possibilities as a diagnostic agent

when applied to man, should have been so almost universally neglected and generally condemned on scant evidence as utterly worthless and dangerous. While its beneficial influence as a therapeutic agent could be exercised only within certain very restricted limits, its undoubted diagnostic value steadily became more and more evident in the light of a slowly accumulating experience in its use.

Vetlesen³ recommends the use of iodide of potassium in the diagnosis of phthisis. One tablespoonful of a 1½-per-cent. solution given three times a day, causes the appearance of râles exactly limited to the portion of the lung where tubercular lesions are wont to appear. He describes 27 cases, 8 of which showed the sign mentioned besides cough and expectoration. In all these 8 cases the diagnosis of tuberculosis was verified. The remaining 19 cases were not influenced by the iodide, and two years later had shown no evidence of tuberculosis.

Bergonié traces the outlines of the viscera, as ascertained by the ordinary methods, on the skin, and again traces them in the dark on the lines shown by the fluoroscope. Disen⁴ adopted the same method by fixing a copper wire, bent to represent the outline of the heart, on the chest-wall, and then examining the patient with the fluoroscope.

Mark J. Knepp⁵ calls attention to a peculiar formation of the head in tuberculous subjects. This may either be flat from side to side or be somewhat triangular in form, the base corresponding to the occipital bones. The author states that in several hundred cases seen, he found the association of a plano-parietal head a most trustworthy symptom of

¹ Med. News, Mar. 20, '97.

² Med. News, May 29, '97.

³ Lyon Méd., Dec. 5, '97.

⁴ Med. Record, Jan. 9, '97.

⁵ Med. Record, Aug. 21, '97.

tuberculosis, not only of the lungs, but of any other organ.

Treatment.—CREASOTE.—E. Lemoine¹ gives indications and contra-indications for the employment of creasote. He states that this drug should not be given in all cases as soon as the signs of pulmonary phthisis are recognized, as is the general custom. Creasote should not be employed on the supposition that as an antiseptic it will destroy the tubercle bacillus in the body. The solution required to produce this effect would also be strong enough to kill the person. The effect to be produced by creasote is to develop an inflammation around the diseased centres: one, indeed, calculated to exert a stimulation favorable to the vitality of the animal cells. The object should be not only to determine the cases in which creasote is indicated, but to graduate the doses so as to limit the inflammatory phenomena which it always produces around the disease-centres. If the patient has some deficiency of resonance over a restricted area, with harsh respiration in this situation, prolonged expiration, but no râles; if he has never had hæmoptysis, and has no fever; if his general condition is fairly good, he is getting thinner, and his appetite is bad, creasote can be given: first, because, apparently, there is no peritubercular inflammation; and, second, because, from the wasting, we gather the thought that the tuberculosis is advancing. If, however, in addition to the signs mentioned above, we hear subcrepitant râles around the zone of induration—manifestly indicating that there is peritubercular inflammation—and if the patient has fever, however slight, the employment of creasote is contra-indicated.

Briefly, creasote should not be given to a patient with fever or signs of congestion (inflammation), nor with wast-

ing, loss of appetite, nor long-continued hectic. It may be given when there is no fever, or only the slight fever of suppuration, as during the formation of cavities. It should not be given, also, when there is repeated hæmoptysis.

Clifford Beale² recommends, as the least objectionable method to administer the drug, that pure beech-wood creasote be dissolved in codliver-oil, beginning with 3 or 5 minims, the same amount being added to the previous dose every alternate day until a maximum of 160 or 180 minims per diem is reached. The results obtained were highly satisfactory.

Chaplin and Tunnicliffe³ speak in high terms of guaiacolate of piperidine as a substitute for creasote. The former not only possesses antiseptic power, but it also contains a constituent which possesses a nervine and vascular tonic action. When given hypodermically, it slows the heart, raises the blood-pressure, and greatly increases reflex excitability, and should, therefore, be regarded as a cardiovascular tonic and spinal stimulant. Fourteen cases, chosen at haphazard, were given, at first, 5 grains, three times a day, then gradually increased to 20 or 25 grains three times a day. It causes no unpleasant effects, is exceedingly well-borne by the stomach, and improves the appetite and general strength.

According to St. Clair Thomson,⁴ in Dettweiler's sanitarium, at Falkenstein, creasote has been given a thorough trial, and has now been completely abandoned along with tuberculin and all other specific remedies. General dietetic and hygienic influences the only remedies relied on. Before attributing any virtue to the creasote it would be neces-

¹ *Le Nord Méd.*, Sept. 15, '97.

² *Lancet*, Oct. 30, '97.

³ *British Med. Jour.*, Jan. 16, '97.

⁴ *Lancet*, Oct. 30, '97.

sary to see the results obtained in an equal number of similar cases treated in exactly the same way, but with the creasote omitted.

Fisk¹ also emphasizes the uselessness of drugs in cases of phthisis, as the digestion should, under no circumstances, be compromised. He has often seen a patient take many drugs and fail rapidly, owing to anorexia and indigestion, who immediately began to improve when the digestive track was cleared by the use of calomel and the use of internal remedies ceased.

H. B. Weaver² considers hæmotherapy, pure bullock's blood, or animal or vegetable nucleins, introduced through any part of the alimentary tract as the rational procedure in the treatment of tuberculosis.

YEAST-NUCLEINIC ACID.—Victor Vaughan³ reports the results with nucleinic acid in 76 cases of tuberculosis treated from May, 1893, to December, 1895. Tubercle bacilli were found in all, and many were in the last stages of the disease. Of the 76 cases, 70 were cases of pulmonary tuberculosis. Of these, 30 died. Of these last, 9 were temporarily benefited. Of the 70 pulmonary cases the author says: "Seventeen have been continuously free from the bacillus for from one month to two and a half years, so far as can be determined from the sputum,—i. e., either there has been during this time no sputum to examine or that examined has failed to reveal the bacillus. To the best of my knowledge, another has been free from the bacillus for more than a year, and another has been free from the bacillus with the exception of a short time, and still another was free when last examined. Twenty were still infected at the last examination. Of these, 16 have been apparently improved by the treatment. It should

be stated that none of these were hospital cases. I was not able to control their diet. Most of them were not rich, and had only inexpensive food. The hygienic conditions under which many of them have lived have not been satisfactory."

Of the 5 cases of urinary tuberculosis, 4 were apparently cured. One was temporarily benefited, but developed acute miliary tuberculosis and died. The 1 case of joint tuberculosis was benefited.

Concerning the value of 1-per-cent. solutions of yeast-nucleinic acid administered daily in doses from 60 to 80 minims hypodermically, the author concludes that:—

1. In advanced stages of the disease, in which the area of involvement is great, with or without cavities, the best that can be expected from this treatment is temporary improvement. Even this does not occur in all cases.

2. In initial cases, when the area of infection is limited, this treatment may, and often does, not only arrest the progress of the disease, but it acts as a curative agent.

ROENTGEN RAYS.—Chapteloube, Descomps, and Roullies⁴ referred to the case of a woman, aged 22, suffering from acute and rapidly spreading pulmonary tuberculosis treated by X-rays. There was a cavity at the right apex, the whole right lung was infiltrated, there was generalized extension to the left lung, and the sputum was filled with tubercle bacilli. All medicines were left off, and the X-rays substituted. At the eighth application a crisis occurred, with fall of temperature; this, however, rose again. During the following month the rays

¹ Trans. Amer. Climatological Assoc., '97.

² Jour. Amer. Med. Assoc., Nov. 13, '97.

³ Med. News, March 20, 27; Univ. Med. Mag., June, '97.

⁴ Arch. d'Electricité Méd., May 5, '97.

were used from behind twice a day, resulting in a marked fibrosis of both lungs, diminution in cough and expectoration, and almost complete disappearance of tubercle bacilli. In thirty sittings the X-rays favorably influenced and almost healed lungs affected with acute tuberculosis.

NIGHT-SWEATS.—*Camphoric Acid.*—Camphoric acid is thought by Ralph Stockman¹ to act more powerfully than either atropine or agaricin in 15-grain doses. The tendency to excessive sweating seems to disappear. It is good also in non-tuberculous cases, although it has been stated that its usefulness is confined to the sweating of phthisis. The best plan is to give 30 grains at night two or three hours before the sweating begins, or in two doses at short intervals, in powder, capsules, or cachets; the alcoholic solution is very bitter. Its action is usually not very prolonged. According to H. A. Hare, of Philadelphia,² camphoric acid controls the sweats of tuberculosis in the great majority of cases, and does not produce any disagreeable symptoms, such as are usually caused by atropine or other powerful antisudorifics. No remedy has, in his opinion, so universally succeeded. Twenty grains are usually sufficient to control the sweat if given early enough to be absorbed before the time of the sweat is reached. Camphoric acid may be given in cachets, dissolved in whisky or brandy, or placed in dry powder on the tongue, and washed down with a little water or milk.

CLIMATIC TREATMENT.—Von Ziemssen recently stated that during the present century almost every year has brought with it a new remedy. All these have now been discarded, except two: tuberculin and climate. Tuberculin will often cure lupus, and iodoform tuberculosis of the joints; but as yet we have

no specific for tuberculosis of the lungs. There only remains the climatic treatment. Fresh air and altitude bring about an excitation of the blood-making organs, but there are contra-indications to high altitudes. A tuberculous patient with fever should never be sent to a height; he will become worse. If the fever is due wholly to the presence of bronchitis or pleurisy, it does not act as a contra-indication. The best results, according to the author, are obtained when the patient is sent to a place near his own home, for a long journey is always depressing, and the comfort of seeing friends, especially to a sick man, is very great. The stage of the disease must be taken into consideration in deciding this matter. If the case is much advanced the patient should be kept as near home as possible.

Volland³ introduces a timely warning when he says that now that it is taught in the German schools that tuberculosis can be cured by change of air and overfeeding, the greater number of consumptives will be treated by overfeeding when change of air is not available. The unfortunates will have double the amount of food required by a healthy man thrust into their alimentary canal. The disease must first undergo diminished activity before the appetite can return and an increased amount of nourishment be borne. Tuberculosis is not to be driven back by forced feeding. Rest is most important during activity of the disease. Instead of losing appetite by rest in bed, patients in Davos acquire a much improved appetite. In windy weather patients should remain in-doors.

According to Vivant,⁴ the Mediterranean resorts offer the advantage over

¹ Edinburgh Med. Jour., Jan., '97.

² Therap. Gaz., March, '97.

³ Therap. Monat., H. 6, June, '97.

⁴ New York Medical Record, Sept. 11, '97.

the mountain that, with a superior solar radiation, they are less cold, permitting the patient to live in the open air continually in light, thin clothes, giving the air and light the best chance to exert their favorable therapeutic action.

The Riviera is losing ground as a resort for consumptives in the minds of

those physicians who seek only to benefit their patients. The sun is hot and the shade is cold, constituting a dangerous contrast for weakened organisms. The "Mistral" of March and April equals the Roentgen rays in penetrating power. Algeria is far superior, and so is the southwest coast of France,—Arcachon, for instance.

Editorial.

TREATMENT OF CANCER BY INTERSTITIAL INJECTIONS OF ALCOHOL.

THE results obtained in a case of cancer of the naso-pharynx by a well-known clinician, Dr. Kuh, of Chicago, and the fact that the correctness of the diagnosis had been sustained by so competent an observer as Dr. Senn, add much weight to the evidence already collated in favor of alcohol as a curative agent.

The search for pathogenic micro-organisms, antitoxins, etc., has so captivated the attention of investigators during the last decade that remedial measures of a more prosaic kind have been relegated to a position well in the rear. Koch's tuberculin set the world aglow with anticipation; it had in its favor the enthusiasm of the hour. Had this agent been an extract of some commonplace variety of a generally known plant, crucial tests innumerable, with classical skepticism as a sponsor, would soon have chilled both discoverer and discovery; or, it might have passed unperceived and finally have found a resting-place where so many honest efforts are buried in dust, on the shelf.

Such has been the fate of alcohol as a remedial agent in the treatment of cancer. Although many years have elapsed since attention was first called to its effects upon neoplastic tissues, no interest has been awakened and it lies practically dormant, awaiting its turn to enter the clinical arena. Are its claims sufficiently valid to merit thorough test by clinicians? It is safe to state that, if tuberculin had had to its credit but half of the *bona fide* points already noted in favor of alcohol in the treatment of cancer, it could have withstood the test of time.

Over twenty-five years ago Karl Schwalbe, having obtained satisfactory results from interstitial injections of alcohol in the treatment of benign growths, argued that if alcoholism could give rise to the formation of new connective tissue in the liver and thereby induce atrophy of the parenchyma, including its vascular supply, malignant tumors should yield to the direct action of alcohol in the same manner.

Hasse, of Nordhausen, after a careful analysis of the whole question, reached the conclusion that injections of alcohol around the base of the growth would suffice. A zone of new connective tissue would be formed; constriction of the blood-vessels and lymphatics would necessarily follow; and, the afferent and efferent channels being thus partially or entirely closed, the nutrition of the growth would cease, while the same mechanism would serve to close avenues for the passage of metastatic elements. His results verified the correctness of his views, and, of eighteen cases of carcinoma of the breast treated by him, fifteen were cured, the three cases lost being hopelessly advanced when the treatment was instituted. Recently¹ he showed that the method insured radical results by reporting the histories of three cases treated in 1878. Although nearly twenty years had elapsed up to the date of his paper, the persons treated were in perfect health, no recurrence having taken place. A connective-tissue capsule had formed around each growth, causing obliteration of the blood-vessels and contraction of the neoplastic tissues. In other directions, results were also met with tending to sustain the value of the method. Vulliet, of Geneva, used alcohol in advanced cases of uterine cancer and obtained marked relief, which he ascribed to the local ischæmia produced. In our country J. W. Young,² of Bloomfield, Ia., employed alcohol in various varieties of tumor. Rapid reduction of the size of the growths was produced; but he ascertained that, if too much alcohol were injected at one time, sloughing of the growth and general intoxication of the subject would follow. With ordinary caution, however, he was able to avoid these untoward effects by injecting 10 to 20 minims into one side of the tumor, then as much in another place, etc., this being continued until every part of the growth had become infiltrated by the alcohol.

An extremely interesting case has recently been reported, which not only adds considerable evidence to that already adduced, but also furnishes an opportunity for a profitable study of the whole question by deductive reasoning. The case was one of scirrhus of the breast treated by William Yeats.³ The patient was a widow, aged 58 years, whose left breast was already twice as large as the right and ulcerated at the nipple. On February 20th, of a mixture of 40 parts of absolute alcohol and 60 parts of distilled water, 23 syringefuls, each of 20 minims, were injected deeply into the tissues round the tumor, and into the axilla in the neighborhood of the enlarged glands. The injections, averaging from 22 to 25 syringefuls each time, were repeated about every fifth day until May 2d. Each sitting occupied about three-fourths of an hour. The injected fluid had a great tendency to flow out again, but the author found that this could be obviated by smearing collodion over the needle-pricks. The patient experienced considerable pain, lasting from one-half to one

¹ *Archiv für Pathol. Anat.*, B. 146, Nov. 4, '96.

² *Charlotte Medical Journal*, July, '95.

³ *British Medical Journal*, Sept. 25, '97.

hour. After the second series of injections she declared that the sensations in the breast were altered, the shooting pains were no longer felt, while the itching on the surface of the mamma, which she had complained of, disappeared and never recurred. After the subsidence of the immediate painful effects of all the other injections, the patient felt more comfortable in every way. When the process had been continued for five weeks, the parts round the tumor began to be œdematous, but still the injections were continued into and beyond the œdematous parts. During the sixth week the patient and her nurse stated that they considered that the growth was smaller, and certainly at the beginning of the eighth week (April 11th) the whole breast, including the tumor, had diminished in size.

After this date, all the parts, breast and tumor, rapidly shrunk, until in May there was actually nothing left of the mamma to be felt by the hand, and practically nothing left of the tumor, but the nipple and slight thickening under it. There was still œdema in the injected area. The glands in the axilla could not be detected. At this time Mr. Windsor examined the case (May 12th) and stated "that whilst the right was a fairly large hanging breast, the other—the left breast—had practically disappeared, the nipple only remaining; that he did not find any thickening under the pectoralis nor enlarged glands in the axilla." After these seventeen injections, a complete structural change to all appearance having taken place, it was intended to continue the injections at longer intervals for a considerable time, but, unfortunately, the patient became ill otherwise. She lost her appetite, became slightly jaundiced, and on examining her on May 16th it was found she was suffering from cancer of the liver with ascites. This being the case, nothing further was done; the patient rapidly grew worse, and died on June 10th.

At the autopsy the mamma was found replaced by a dense, fibrous-looking mass with several processes extending into the surrounding fat and firmly connected with the subjacent pectoral muscles. The skin was rough, superficially ulcerated at one place, and adherent to the subjacent tissue round the nipple. The nipple was depressed, but not considerably retracted.

The first query that suggests itself brings into question the nature of the tumor. Hasse's cases were treated twenty years ago, when physicians were not habituated, as they are now, to the use of the microscope. Then, as now, enthusiasm sometimes warped the very best intentions. Vulliet's cases, however, were undoubtedly cancerous, their course demonstrating the correctness of the diagnosis. In Yeats's case examination of the mammary and hepatic tissues by Professor Delépine did not establish beyond doubt the identity of the neoplasm, as may be seen in the following report:—

"The cutis vera, subcutaneous tissue, and fat surrounding the mamma show distinct signs of proliferative inflammation of the connective-tissue elements and little infiltration with leucocytes.

"The tumor itself presents, in most places, the appearance of an atrophied scirrhus carcinoma,—that is, the epithelial cells are small, they do not fill the alveoli containing them, and the stroma is, generally speaking, abundant, and shows signs of great proliferative activity; the peri-acinous connective tissue shows, in a marked degree, the metamorphosis described as elastic degeneration. These signs of atrophy of epithelial elements and increase of connective-tissue stroma are not absolutely general, and in some parts the tumor still presents the appearances of a typical scirrhus carcinoma.

"The section of liver shows several confluent nodules of scirrhus carcinoma; very cellular, epithelial cells of the same type as those found in the mammary tumor; extensive tracts of necrosis; biliary pigmentation; and capsular hepatitis.

"In conclusion, I would suggest that the mammary tumor shows signs of marked irritation of the connective-tissue elements and atrophy of the epithelial cells, and that this may be fairly attributed in part to the action of the alcoholic injections, the similarity existing between the hepatic secondary growth and the primary mammary tumor throwing a certain amount of doubt over this conclusion."

Still, many points are adduced in the history of the case in favor of the view that a malignant growth was really present. Indeed, if to these are added the facies of the patient, the glandular involvement, the character of the ulceration, and the secondary involvement of the liver, another diagnosis is hardly warranted. But another factor must be introduced. Scirrhus may, as is well known, undergo spontaneous atrophy. Might a coincidence not have played an important rôle in the result reached? T. Carter Booth,¹ of Manchester, contributes a case showing to what degree scirrhus may spontaneously contract without apparent cause:—

The patient, a lady aged 69 years, when first seen, eight years before, presented the appearance of 60 years, with all her teeth, and in good health. The breasts were still large, but fleshy: the right normal, the left containing a mass the size of a walnut, not painful or but slightly so, except on pressure. The nipple was normal. No large glands were to be felt in the axilla. There was a vague recollection of a slight injury, but no other suspicious circumstance could be elicited except that, shortly before, her son had died of cancer of the tongue, two and three-fourths years after a supposed complete removal of the diseased organ. Moreover, both mother and son were of the type known to be prone to malignant neoplasms. The diagnosis of scirrhus was confirmed by Mr. G. A. Wright, who advised removal without delay. Operation was declined, and a speedy spread of the mischief anticipated. Whether, however, in spite of, or on account of, non-interference, no further change occurred, except gradual contraction of the breast and tumor, finally reaching the state observed by Dr. Yeats, including the retracted nipple. The atrophic process had

¹ British Medical Journal, Dec. 25, '97.

taken six years. Only after this, during the last year of her life, at the age of 76 years, did cachexia supervene, supplemented by marked emaciation, muscular weakness, anorexia, extreme sensitiveness to cold, and dryness of the skin (suggestive of diabetes: a suspicion not confirmed), but without enlargement of glands or evidence of deposit in the internal organs. This only occurred two months before death. She took to bed, and there appeared in the right loin, higher than the usual site of "decubitus," a hard mass the size of the palm, involving the skin, and gradually causing it to ulcerate into a foul, discharging sore. The breast, however, was now dry and contracted, and the glands were free. The new growth—situated, as it was, on the right side, quite apart from the original deposit—could be a terminal, but not a secondary, manifestation of the malignant habit of the patient. The case was, Dr. Booth thought, an undoubted atrophic scirrhus that had undergone changes similar to those described by Dr. Yeats, but with the difference that the spontaneous process required six years, whereas the injections of alcohol in Dr. Yeats's case had caused reduction in about ten weeks.

Granting that both cases were cancerous, deductive reasoning can but suggest that if, in ten weeks, the atrophic process induced corresponded to that effected by Nature's own resources in six years, the possibility of coincidence must be set aside. But may spontaneous atrophy not occur in less than six years? To justly interpret the case in point the question must be transformed into the following: Has ever a cancerous breast such as that described by Dr. Yeats become spontaneously atrophied in ten weeks? A negative answer need hardly be formulated, and the case certainly warrants the conclusion that as an agent capable of causing contraction of a malignant neoplasm alcohol is unequaled by any drug.

Going a step farther, we are brought to a case reported by Edwin J. Kuh,¹ of Chicago, the diagnosis of which was confirmed clinically by Senn, and furthermore by a microscopical examination which allows of no reasonable doubt. The case was one of primary cancer of the naso-pharynx in which the injection of unfiltered erysipelas-prodigiosus toxins had failed. In view of the inevitable fatal outcome, injections of alcohol were begun on October 14, 1896, with 3 minims of absolute alcohol, the dose being rapidly increased to 30 minims. The reduction in the size began after the seventh injection, and after the eleventh but few remnants of the growth remained. After a dozen more injections the needle would not penetrate into the tissues capable of retaining the alcohol, and after a few additional attempts, at intervals of a week or longer, they were discontinued. In February, 1897, the naso-pharynx was found, both by inspection and palpation, to be entirely free.

This case, added to the others described, establishes alcohol on a basis seldom equaled by any agent proposed. In order to obtain a successful result, however, the treatment must be carefully conducted.

¹ Medical Record, April 17, '97.

In the cases reported as cured by him, Hasse injected a mixture of 30 parts of absolute alcohol to 70 parts of water twice a week around the tumor, as well as into any infiltrated glands. The quantity injected varied according to the size of the neoplasm and sometimes reached 20 Pravaz syringefuls. The only inconvenience observed was pain and, occasionally, slight intoxication. In order to avoid making the injection into a blood-vessel Hasse inserted the syringe-needle deep into the tissues, then unfastened it, leaving the cannula in place. He then waited a moment; if the blood did not issue from the cannula he readapted the syringe and made the injection; but, if blood did flow out, he removed the needle and made another puncture elsewhere. Under the influence of these injections the tumor diminished in size and soon became less painful. The treatment should be continued for some time after apparent cure, at intervals more and more prolonged.

Pain seems to be the only untoward effect of the procedure. Local hypodermic injections of water are known to cause anæsthesia. This or some other local anæsthetics might be employed to obviate the only feature that might cause the sufferer to refuse assistance. General anæsthesia might even be resorted to for the first injections in sufficiently robust subjects until the treatment has itself reduced local tenderness.

The remarkable increase of cancer during the last half-century need hardly be emphasized. The nature of the affection sufficiently sustains an earnest plea that alcohol be given the faithful trial it seems to merit.

CHARLES E. DE M. SAJOUS,
Philadelphia.

THE PHILADELPHIA MEDICAL JOURNAL.

The beginning of the year brought forth a new journal, and one which any editor can consider as a valuable acquisition to his exchange list. This means much, for it implies all the other qualities which a standard weekly should possess. As to scientific worth, the first issue contains articles by the crowned heads—not merely the princes—of our profession: Da Costa, Osler, Senn, Keen, and others. As to completeness, the first issue contains thirty-six pages of compact text, while the fact that Dr. George M. Gould is the Chief-Editor affords a guarantee that these pages must be replete with valuable information on all subjects.

The journal is under the business management of a board of trustees, in which our profession is represented by some of its best members—Drs. William Pepper, Weir Mitchell, James Tyson, John B. Roberts, T. G. Roddick (of Montreal), James C. Wilson, and others—who have mainly in view the dissemination of knowledge and scientific progress. All physicians should welcome The Philadelphia Medical Journal and give it their hearty support.

Cyclopædia of Current literature.

ABDOMINAL INJURIES.

Diagnosis.—In contusion, narrow bodies, the action of which is exerted on a small area, reach more deeply by overcoming resistance of the abdominal parietes more easily than larger bodies. The resistance varies with the age, state of obesity, and state of relaxation or contraction of the muscles. The direction of the blow is of importance. If perpendicular to the deeper structures, it is most harmful; when parallel, it tends to glide off; when oblique, the force is modified. Demons (*British Medical Journal*, Nov. 27, '97).

Treatment.—Hyperæsthesia of the abdomen after injury is an indication for operation. An increase in the respirations to twenty-eight or thirty per minute makes the indication absolute. Cold extremities are also significant. Le Dentu (*Le Progrès Méd.*, Oct. 27, '97).

The surgeon, when confronted with gunshot wounds penetrating the abdomen, ought immediately to perform laparotomy, and look out for the various perforations of the viscera to see if he can close them, without waiting till peritonitis arises to force his hand. Chauvel (*Lancet*, Oct. 2, '97).

Abdominal section is the only treatment to apply in contusions of the abdomen. It has been sufficiently demonstrated that the symptoms are not an adequate index of the gravity of the lesion or lesions; and, if we cannot tell what the injuries are, the only thing to do is to investigate. Mendy found that in 289 cases of contusion from the kick of a horse, 30 per cent. of the non-oper-

ated patients died; and also 71 per cent. of those operated upon. These figures have no value; for, in many instances, no details were given, and in 18 out of 25 fatal operative cases peritonitis was already established. Of the writer's cases, 20 in all, 14 of the patients were operated upon, with 2 deaths, while, of the 6 not operated upon, 2 died. Michaux (*French Congress of Surgery; Medical News*, Nov. 27, '97).

ABORTION.

Diagnosis.—Spurious abortion. This is a disorder in which a mimicry of early pregnancy and of abortion occurs, quite different in its characters from the condition known as "spurious pregnancy." The condition is not associated with hysteria, and the usual functional disturbances of pregnancy are not exaggerated. It differs from pseudocyesis in the existence of definite changes in the uterus, and from pregnancy, either topic or ectopic, in the essential point of the absence of an ovum. It is a mimic abortion in which there is a period of amenorrhœa with enlargement of the uterus and formation within it of a body, the detachment and expulsion of which is followed by a return to menstrual regularity and the former condition of general health. The body expelled is not an ovum, but is formed entirely from menstrual structures. The membrane presents the essential characters of the decidua of pregnancy. The diagnosis is impossible until after the discharge of the cast. The author records three cases.

T. W. Eden (London Lancet, Sept. 25, '97).

Treatment.—When intervention is necessary, "instead of the curette I simply use my finger, which is a marvelous instrument for one possessed of intelligence, while the curette is a blind instrument which I only use when there is hæmorrhage or infection." For intra-uterine injections a solution of permanganate of potassium is recommended. Tarnier (*L'Union Médicale du Canada*, Nov., '97).

To use the finger as a curette is, in most cases, unsatisfactory, even when one hand is used for pressing the fundus down. The finger is often arrested at the internal os or does not reach the uppermost part of the cavity, and, at all events, it can only be used to separate the ovum from the uterus, and cannot remove the decidua vera. Henry J. Garrigues (*Medical News*, Nov. 6, '97).

ACNE.

Treatment.—In relapsing acne, soap is a skin irritant; its use is entirely out of harmony with a sedative treatment. Equal parts of pusol and dimatos form a powder of considerable curative value. In a week or two the skin will be sufficiently quiescent to justify more stimulative therapeutic measures. Here any of the usual sulphur ointments may be employed, but the application should at first be cautious and at intervals only; or, better, an ointment containing $1\frac{1}{2}$ drachms of pusol to 1 ounce of vaselin may be employed. This is rubbed in at night, while the face is dressed with the above-mentioned powder in the daytime. Leslie Phillips (*British Medical Journal*, Sept. 25, '97).

ACROMEGALY.

Pathology.—Case of acromegaly in which necropsy showed that the skull

was uniformly thickened and heavy, and all the air-spaces were dilated. The sella Turcica was deep and wide, and the pituitary body was converted into a cyst containing semifluid substance. Percy Furnivall (*Lancet*, Nov. 6, '97).

Analysis of 34 recorded necropsies of cases of acromegaly: changes in the pituitary gland had been found in all; in all but three there had been either hypertrophy or tumor. The thyroid gland was examined in 24 cases and was normal in only 5, and hypertrophied in more than half. The thymus was examined in 17 cases: it was absent in 7, hypertrophied in 3, and persistent in 7. The sympathetic ganglia were examined in 10 cases; reported as hypertrophied in 6. The only constant associated changes appeared to be those in the pituitary body; these changes were not uniform and might occur without acromegaly. Percy Furnivall (*Lancet*, Nov. 6, '97).

Case in which, besides other typical symptoms, the cartilages of the nose and ears were greatly thickened, and probably those of the larynx, as his voice had altered of late to a deep bass. The skin of the face was slightly pigmented and the orifices of the sweat-glands enlarged. The tongue was enlarged enormously and the tonsils and uvula also. Difficulty in swallowing at times and slight asthmatic seizures. John N. d'Esterre (*British Medical Journal*, Dec. 4, '97).

AMENORRHŒA.

Etiology.—Case of absolute amenorrhœa in a married woman 26 years old. The external os was patulous, and a probe entered the canal of the uterus a distance of 4.7 centimetres. After traction on the cervix and using slight force, the point of the probe passed a tight constriction a farther distance of 1 centimetre, making the total uterine

depth 5.7 centimetres, or $2\frac{1}{4}$ inches. Examination showed evidences of an old, inflammatory process about the tubes and ovaries, resulting presumably in atrophy of the ovaries, chronic inflammation of the tubes, and stenosis of the uterine canal, besides anchoring the uterus in a pathological position in the pelvis. History of varioloid, severe fall, and hereditary tuberculosis. W. L. Burrage (Boston Medical and Surgical Journal, Oct. 14, '97).

ANTHRAX.

Pathology.—No immunizing substances found in the blood either of animals treated with Pasteur's vaccine or of those who had passed through an attack of anthrax. In animals treated for weeks and months with increasing doses of virulent anthrax cultures so that an active immunity is acquired, such protective substances are present in the blood. The serum obtained from a sheep thus treated conveyed a certain degree of immunity when injected into rabbits. Attempts at cure of the disease in rabbits were without effect. In 2 out of 7 sheep in which 100 to 150 cubic centimetres of normal serum from a lamb were first injected, then a small quantity of a virulent anthrax culture, both animals succumbed. Three other animals were given a single dose (50, 100, and 200 cubic centimetres of serum), and later a virulent anthrax culture. All these animals recovered. The sixth and seventh animals were also injected with smaller virulent cultures; later with anthrax serum. Both recovered. Sobernheim (Berliner klinische Wochenschrift, Oct. 18, '97).

APOCYNUM CANNABINUM.

The action of apocynum greatly resembles that of digitalis. It is not cumu-

lative, however, as shown by Glinski. "Apocynum properly administered is a very remarkable diuretic. Doubtless it acts indirectly by increasing the arterial pressure, but it must also be a direct renal stimulant, and cause dilatation of the renal arterioles. So far as I know, this has not been demonstrated, but the effects point to such a mode of action. Its influence is best seen in those general effusions that depend upon a want of vascular tone, and, whatever the reason, the empirical fact remains that most remarkable results have followed its use." A. A. Woodhull (British Medical Journal, Dec. 11, '97).

BLEPHARITIS.

Treatment.—The best results are obtained with a solution consisting of hydrogen dioxide and water, equal parts. This accomplishes the desired result and does not pain the eye. It is to be applied with a bit of absorbent cotton, dipped into the dioxide solution and rubbed along the lashes. This should be kept up until the specific oxidizing effect is seen on the scales or crusts, as will be evidenced by the bubbles. The edges of the crusts will begin to separate. They are then to be dried with absorbent cotton.

There is a great advantage in using this remedy in children; it greatly lessens the pain of the treatment. It is also of special value where ointments of all kinds produce more or less irritation, and sometimes cause an aggravation of the symptoms. S. C. Ayres (Cincinnati Lancet-Clinic, Oct. 23, '97).

CARCINOMA.

Pathology.—Out of eleven cases of carcinoma of the penis, in ten the type was a squamous epithelioma, resembling carcinoma of the lip. The commonest

point of origin was the dorsal aspect of the glans in the region of the corona. The existence of psoriasis præputialis (as described by Schuchardt) was demonstrated in the tissues surrounding the growth. Carcinoma extends along the lymphatic vessels on the dorsum of the penis, through the corpora cavernosa and into the glans. The dense fibrous capsule of the corpora cavernosa retards the progress. The urethra itself is involved in the last stages. Thomson (British Medical Journal, Dec. 25, '97).

CROUPOUS PNEUMONIA.

Symptoms.—Statistics of 150 cases. Of these, 80 per cent. presented the characteristic chill, fever, and other symptoms, the disease lasting from 6 to 11 days. The right lung was involved in 60 per cent., the left in 24 per cent. of the cases: both lungs in 16 per cent. In 12 the apex was involved, but in these no cerebral symptoms were present. The initial chill was absent in 14 per cent. of cases occurring in adults. In 3 cases in old subjects the temperature remained low, never rising above 100.1°. In 3 cases sudden death occurred, probably due to the action of the toxins upon the heart. Leucocytosis was found in 22 of 30 cases, a marked increase occurring immediately before the crisis; in the cases examined within 36 hours after the crisis there was no further evidence of leucocytosis. Elsner (Medical News, Jan. 8, '98).

DISINFECTION.

Formalin pastils employed as recommended by the Fabrik Schering, while sufficient to kill staphylococci, diphtheria bacilli, bacilli prodigiosi, and typhoid bacilli, do not affect the spores of anthrax bacilli and of bacillus subtilis and the bacterium coli. They are, there-

fore, not to be relied upon if thorough disinfection is desired. Gemund (Münchener medicinische Wochenschrift, Dec. 14, '97).

DISLOCATION OF THE CLAVICLE.

Treatment.—Recurrence of dislocation of the acromion end of the clavicle may be prevented by passing a two-inch strap over the shoulder and under the elbow of the affected side. This being tightly buckled, the arm is firmly secured by a retention-bandage. T. L. Rhoads (Annals of Surgery, Jan., '98).

FILARIA OZZARDI.

A new species of filaria found in the blood of aboriginal Guiana Indians. Out of 63 Indians living in the interior, minute filariæ found in 27. One variety sharp-tailed and without a sheath; the other blunt-tailed and resembling the filaria perstans of West Africa. Manson (British Medical Journal, Dec. 25, '97).

HODGKIN'S DISEASE.

Treatment.—Well-marked case of Hodgkin's disease, erratic temperature, varying from normal to 102.5°. Patient put on the usual arsenical treatment, beginning with 2 minims thrice daily, and gradually increasing the dose until she was taking 7 minims, three times a day, of Fowler's solution; but in spite of this she steadily and rapidly got worse, till at the end of five weeks she was a perfect skeleton, profoundly anæmic, sleepless, and the group of glands affected so agglutinated that outlines of single glands were quite obliterated. The spleen was enlarged, temperature was almost constantly about 100°, and her digestion failed completely. The case seemed rapidly moving toward a fatal termination.

Although bone-marrow tabloids had previously been tried in a case of the same disease in an adult without the smallest benefit, they were used in this case, beginning with 1 thrice daily. But the third day vomiting and diarrhoea had ceased and the temperature was normal. This improvement steadily continued. The number of tabloids taken was gradually increased, till at the end of a fortnight she was taking six in the day. After two months she was apparently in good health, although the submaxillary and one of the cervical glands were still large. The tabloids were finally stopped. A fortnight afterward she was once more somewhat anæmic, and with the glands, which had subsided to normal, appreciably enlarged. The tabloids were resumed, three a day; she still continues to take the same dose, and is now a plump, healthy child; but she still presents slight enlargement of the submaxillary and one cervical gland. J. D. L. Macalister (*British Medical Journal*, Nov. 13, '97).

HYSTERICAL ANOREXIA.

Pathology.—Case of hysterical anorexia in which, while there was no evidence of visceral disease and no sugar in the urine, the breath smelled of acetone, and the urine gave a most marked reaction of aceto-acetic acid. There was vomiting, and the vomit also contained acetone. In the first, or comparatively fasting, period, acetone, aceto-acetic acid, oxybutyric acid, and ammonia were found. The amount of urine was small, and hence a considerable excretion of acetone occurred through the lungs. With sufficient nutrition the smell of acetone in the breath, the reaction with ferric chloride in the urine, and the increased ammonia excretion disappeared. Nebelthau (Cen-

tralblatt für innere Medicin, Sept. 25, '97).

IMMUNITY.

The phagocytic power of leucocytes is unimportant; but these bodies probably secrete substances that destroy bacteria or their toxins and stimulate greater resistance on the part of the leucocytes and tissues. Thompson (*Medical Record*, Jan. 8, '98).

INDICANURIA.

Pathology.—The introduction of large numbers of colon bacilli into the intestines increases the indican and the ethereal sulphates of the urine. The introduction of large numbers of the proteus vulgaris may increase the ethereal sulphates, but not perceptibly. The introduction of the lactic-acid bacillus may reduce markedly the indican and ethereal sulphates. Herter (*British Medical Journal*, Dec. 25, '97).

INEBRIETY.

Pathology.—Statistics and clinical studies of cases make it clear beyond all doubt that inebriety is insanity, obscure and masked, starting from the same range of physical causes, following the same lines of progress, and curable in substantially the same way. T. D. Crothers (*British Medical Journal*, Sept. 25, '97).

LIVER, RUPTURE OF THE.

Pathology.—Case of rupture of the liver with operation and recovery. The kick caused a rupture of the liver on its upper (diaphragmatic) surface; through this rupture bile and blood slowly effused, but they were shut off from the peritoneum by adhesions, which developed rapidly before effusion had become great in amount. The wound on the

surface of the liver healed, but a cavity was left in the substance of the organ into which the torn bile-ducts poured their contents. Some of the bile that had escaped through the tear in the surface of the liver found its way through the diaphragm into the right pleura and gave rise to a pleurisy with effusion. There were thus three separate collections of fluid: 1. In the right pleura. 2. In a space formed between the diaphragm, the convex surface of the liver, and the anterior abdominal wall. This commenced to form immediately after the accident, and probably did not increase in amount after the first twenty-four hours. 3. In a cavity within the liver. This last collection, no doubt, went on slowly increasing until it was evacuated. W. Moore (*Lancet*, Sept. 18, '97).

Treatment.—A jet of steam to control hæmorrhage from the contused liver or omentum, first recommended by Sneguireff, has antiseptic as well as hæmostatic virtues. When the tampon is employed, the surrounding peritoneal cavity should be shut off by a few sutures. Doyen (*Le Progrès Médical*, Oct. 30, '97).

LOCOMOTOR ATAXY.

Pathology.—The prevailing opinion is that the disease is primarily and simultaneously manifested in the fibrils conducting sensory impulses from the muscles, and secondly in those of the medulla at the upper end of the columns of Goll and Burdach. As a result of inherited or acquired tendencies or of the action of toxins (generally syphilis) the nervous system is reduced in vitality. In some sensory neurons the impairment is greater than in others, or the resistance of the tissues less, and in these the disease starts spreading to

other regions. The prognosis not so unfavorable as generally believed. Langdon (*Medical Record*, Jan. 8, '97).

OBESEITY.

Treatment.—Tabloids of the whole gland substance disagreed in some instances, owing, no doubt, to the fatty matter they contain. Colloid tablets not prepared according to the method advocated by Dr. Hutchinson were found decidedly disappointing. Of the three sorts of tabloids used, those prepared according to Dr. Hutchinson's process were found to be the most efficacious. P. Jervis (*British Medical Journal*, Oct. 2, '97).

PERTUSSIS.

Bacilli found in 1894 in the sputum, resembling those of influenza and usually associated endwise and in pairs. Occasionally they formed long chains, simulating a continuous thread. The same were recently described by Czaplewski and Hensel. Carl Spengler (*Deutsche medicinische Wochenschrift*, Dec. 23, '97).

THYROID EXTRACT.

Physiological Action.—The thyroid extract lowers the blood-pressure, also the heart-beat. This lowering of the heart-beat ensues when the vagi are cut or when their peripheral ends are paralyzed by atropine. It is probably that the drug acts upon the heart itself, and thus lowers the cardiac beat. The blood-pressure fall is not due to a paralysis of the main vasomotor centre, for the arterial tension falls just as readily when this centre is cut off by a section of cord in the neck.

Thyroid powder, when given subcutaneously, also produces a rise of temperature. It is a pyrogenic agent. This

action of the thyroid shows that we should be careful in its administration to persons affected with heart disease. Isaac Ott (*Medical Bulletin*, Oct., '97).

TUBERCULOSIS OF THE LARYNX.

Treatment.—Guaiacol found very satisfactory in seven cases, six of which showed marked pulmonary complications. After thoroughly cleansing the larynx with an antiseptic spray, particularly with mixtures of guaiacol in castor-oil, the larynx is cocaineized and the needle of a submucous syringe, guided by a laryngeal mirror, inserted in the desired place. One minim of the guaiacol is then injected into the floor of the ulcer or into the tuberculous infiltration. Donelan (*Lancet*, Dec. 25, '97).

TUBERCULOSIS OF THE LUNGS.

Etiology.—Pulmonary tuberculosis is most frequent among females, because, as compared to males, they lead chiefly an in-door life. While tuberculosis is an infectious disease, no evidence has ever been presented that tends to show that such infection ever occurs by exposure in the open air; to the contrary, there is abundant evidence showing that infection is of very common occurrence from in-door exposure. Abbott (*Boston Medical and Surgical Journal*, Jan. 6, '98).

Diagnosis.—Tuberculosis is present in many cases that are not diagnosticated, and to this fact are due many of the deaths of small children from inanition. A case may be considered as tuberculosis when there is slight dullness, prolonged expiratory murmur, and increased vocal resonance at either apex, low weight, rapid pulse, and a family history of tuberculosis. Gage (*Boston Medical and Surgical Journal*, Jan. 6, '98).

Treatment.—Results obtained in twenty-two cases treated by cinnamic

acid. Attempts to kill the bacilli through the respiratory tract have ended in failure. Restitution and gradual recovery is only possible in the very earliest stages, when diagnosis is very uncertain. This result can only be obtained by exciting artificially an inflammation around the tubercular nodule, which may end in cicatrization. As shown by Landerer, cinnamic acid and its salts can give rise to an increase of white blood-corpuscles, which reaches its height in eight hours, and subsides in about twenty-four. An aseptic inflammation is thus brought about around the tubercles: dilatation of the blood-vessels, emigration of leucocytes, and serous infiltration being induced. In about three weeks a wall of leucocytes is formed around the tubercle, and shuts it off. The leucocytes then penetrate the tubercular mass—small blood-vessels and connective tissue then form, and constriction follows. Calcification may also occur. Cinnamic acid is most conveniently injected into the gluteal region. He begins with 0.1 of a 5-per-cent. emulsion, and gradually raises it to 1.0, where he stops. Of the 22 cases, 6 were cured, 12 were improved, 1 died, and 3 were not affected in any way. The treatment extended over a period of five or six months. The method is perfectly safe, but Heusser recognizes that cinnamic acid is not a specific against tubercle. Heusser (*Therapeutische Monatshefte*, Sept., '97).

TYPHOID FEVER.

Pathology.—Case of typhoid fever showing no lesions of the intestines and in which the bacillus was isolated from the spleen. The disease began like typhoid fever and there was moderate diarrhoea. The face was flushed, the tongue coated and tremulous, the pulse

regular, but rapid, and the patient apathetic. Abdominal tympanites and a few rose spots were noted. The temperature rose to 104.2°. Death took place on the seventh day. Hodenpyl (*British Medical Journal*, Dec. 25, '97).

Diagnosis.—Seventeen cases resembling typhoid fever in which the "Widal" reaction was absent. They occurred during the summer months. The temperature rose rapidly to 104° or 105° within five days. The tongue was coated,

moist, and white; the abdomen was slightly distended, with pain and little tenderness. The spleen was enlarged and the bowels generally constipated; the pulse was full and rapid, and often dicrotic. After 10 to 12 days temperature usually fell abruptly. No leucocytosis or malarial parasites. Brill (*New York Medical Journal*, Jan. 8, '98).

[Our next issue will contain a general review of the literature of the year upon this subject.]

Book Reviews.

DISEASES OF THE EAR, NOSE, AND THROAT AND THEIR ACCESSORY CAVITIES. A Condensed Text-book. Illustrated with One Hundred Colored Lithographs and One Hundred and Sixty-eight Additional Illustrations. By Seth Scott Bishop, M.D., LL.D., Professor in the Chicago Post-graduate Medical School and Hospital; Surgeon to the Illinois Charitable Eye and Ear Infirmary; etc. Philadelphia, New York, Chicago: The F. A. Davis Company, 1897.

This work was designed, first, to help students in preparing for their degree; second, for those progressive practitioners who wish to acquire the proficiency necessary to properly treat those patients who are unable to visit specialists; and, third, for those who are gradually exchanging their general practice for special work in these branches. The subjects are simplified and condensed so as to make the work a key, or introduction, to the exhaustive treatises already in the field. The place of the latter it is not expected to fill, for Dr. Bishop's work was not intended primarily for specialists. Yet the author expresses the hope that it may modestly serve their interests in bringing information on the subjects down to the present date, and as a work of ready reference. With this modest aim the author gives us an excellent work, fulfilling precisely the conditions outlined. While clinical data are plentiful, pathology, and especially bacteriology, are merely mentioned—just enough to give the reader an insight into the subjective etiology of each affection. When we consider how much is included between the covers of this volume, we can but conclude that it will prove a most satisfactory acquisition to any physician or student who may conclude to purchase it.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. Illustrated. By James M. Anders, M.D., Ph.D., LL.D., Professor of the Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College of Philadelphia; Attending Physician to the Medico-Chirurgical and Samaritan Hospitals, Philadelphia; etc. Philadelphia: W. B. Saunders, 1897.

The author states in his preface that the above work is meant to introduce the student to the present state of our knowledge of the practice of medicine in general and of the diagnosis, differential diagnosis, and treatment of disease in particular. This may be said to have been faithfully carried out. Indeed, although many books

on the practice of medicine are published, few show as much evidence of a careful search into the literature of each subject as this one does. A few departures from the arrangement generally adopted are to be noted. Bacteriology is prominently mentioned under "Special Etiology." The differential diagnosis has in many instances been tabulated. The formulæ introduced into the text have borne the test of the author's experience and are thus all the more valuable. Altogether, the book may be recommended as an excellent one and fully entitled to the confidence of practitioners and students.

MANUAL OF STATIC ELECTRICITY IN X-RAY AND THERAPEUTIC USES. Illustrated.

By S. H. Monell, M.D., Chief Instructor in the Brooklyn Post-graduate School of Clinical Electro-therapeutics and Roentgen Photography, etc. New York: William Beverly Harrison, 1897.

A work on medical electricity giving special attention to static machines and their use meets a want, and the work before us is eminently fitted to satisfy the most exacting reader. The demonstration that the static machine affords the best means of exciting X-rays within a Crookes tube gives it now an extraordinary interest to the physician and surgeon, and places it in the front rank of high potential apparatus.

The author aims to present in a concise and intelligible form the essential facts relating to static electricity and its successful application to the treatment of disease. He describes how to care for and operate the best type of modern static machine and sets forth the therapeutic indications for the various methods of administering the currents which it produces. Lengthy descriptions of obsolete instruments are omitted in favor of the fullest practical account of clinical details. The chapter upon X-ray methods describes in full the necessary static technique. The therapeutic section of the book presents the clinical experience of the author and others and describes methods of treatment with painstaking exactness.

As the author correctly states, the static machine, in spite of its antiquity as a medical apparatus, is but on the threshold of its real introduction to the profession at large. But little has been made to develop its literature and spread abroad the knowledge of its usefulness.

We can highly commend this work and express the hope that it will secure the patronage it deserves.

EYE-STRAIN IN HEALTH AND DISEASE. With Special Reference to the Amelioration or Cure of Chronic Nervous Derangements Without the Aid of Drugs. Illustrated with Thirty-eight Wood-engravings. By Ambrose L. Ranney, A.M., M.D., Author of "Lectures on Nervous Diseases," "The Applied Anatomy of the Nervous System," etc. Philadelphia, New York, Chicago: The F. A. Davis Company, 1897.

This volume comprises the substance of several monographs that the author has published from time to time during the past ten years in medical journals, with the addition of considerable new matter. He has added, also, the histories of many typical cases in detail with the view of illustrating some remarkable results of eye-treatment alone upon various forms of nervous disturbances that have persisted for years and failed to yield to any form of treatment.

Many of the histories published in this volume are given with sufficient completeness to shed much light upon the methods employed in each case, as well to demonstrate the results obtained by the use of glasses and graduated tenotomies upon some of the ocular muscles. To the oculist the technical portion of some of these records will doubtless prove of greater interest than to the general practitioner

in medicine; but the author trusts that the labor involved in preparing such histories for the press from scattered office memoranda will not be deemed by any reader as misspent.

The views which the author supported in his work on nervous diseases—relative to the effects of eye-strain upon the development of headache, neuralgia, sleeplessness, chorea, epilepsy, nervous prostration, and insanity—are reiterated here with strong clinical evidence to sustain them. Time has but strengthened the author's early convictions, while many of those who were antagonistic to these views years ago are now enthusiastic in their support.

The subjects treated in this volume are: "The Bearings of Eye-strain Upon the Duration of Human Life"; "The Tests of Vision and Ocular Movements"; "Eye-strain as a Cause of Headache and Neuralgia"; "The Eye-treatment of St. Vitus's Dance (Chorea)"; "Sleeplessness: Some Facts Relating to its Causes and Cure"; "Eye-strain as a Cause of Chronic Gastric and Digestive Disturbances"; "The Eye-treatment of Epileptics"; "The Eye-treatment of Nervous Prostration and Insanity"; "The Surgical Treatment of Anomalies of the Ocular Muscles (Heterophoria)"; "Eye-strain as a Cause of Abnormal Eye-conditions."

The author, in his preface, states that he does not expect that his critics will accept all of his conclusions, but asks that the work be read without prejudice prior to criticism and that the reviews be dispassionate.

A perusal of the book at once convinces the reader of Dr. Ranney's sincerity, and, this being the case, the results shown can but admit of the conclusion that the relation between eye-strain and functional neuroses should be closely studied by all who would leave no stone unturned in their desire to satisfactorily treat their cases. Dr. Ranney's book gives a better review of the entire subject than any work published, and should be in the hands of every practitioner.

New Books and Monographs Received.

The editor desires to acknowledge, with thanks, the receipt of the following monographs, etc.:—

Transillumination in Diseases of the Nose, Throat, and Ear. By W. Scheppe-grell, M.D., New Orleans, 1897.—The Surgical Treatment of Ano-Rectal Imperforation in the Light of Modern Operative Procedures. By Rudolph Matas, M.D., New Orleans, 1897.—The Histological Basis of the Neuron Theory. By David I. Wolfstein, M.D., Cincinnati, 1897.—The Treatment of Laryngeal Tuberculosis with Cupric Interstitial Cataphoresis, with Report of Cases. The Advantages of Direct Laryngoscopy in this Method. By W. Scheppe-grell, M.D., New Orleans, 1897.—Case of Mastoiditis Complicating Purulent Otitis Media Cured by Enlarging the Drum Perforation and Syringing the Tympanic Cavity. W. Scheppe-grell, M.D., New Orleans, 1897.—The Progress of Laryngology. W. Scheppe-grell, M.D., New Orleans, 1897.—Progress and Problems of Medicine To-day. By John V. Shoemaker, M.D., Philadelphia, 1897.—The Causation of Influenza and Allied Diseases, with Suggestions for their Prevention. By H. B. Baker, M.D., Lansing, 1894.—Papillary Edematous Nasal Polypi and their Relation to Adenomata. By J. Wright, M.D., Brooklyn, 1897.—Notes on the Examination of Air, Water, and Food. Hygienic Laboratory of the Medico-Chirurgical College of Philadelphia, 1898.—Some Observations on the Surgery of the Gall-tracts, with Report of Cases. Is the Gall-bladder a Rudimentary and Useless Organ? By J. E. Allaben, M.D., Rockford, Ill., 1897.—Some Thoughts upon Alcoholism. By G. H. McMichael, M.D., Buffalo, 1897.

THE MONTHLY CYCLOPÆDIA OF PRACTICAL MEDICINE.

Vol. XII.
Old Series.

PHILADELPHIA, FEBRUARY, 1898.

Vol. I. No. 2.
New Series.

TABLE OF CONTENTS.

	PAGE		PAGE		PAGE
ABORTION. Munro Campbell.....	72	DISPLACED AND ADHERENT PREG-		Achalma, A. Riva, Triboulet and	
ANGINA PECTORIS	41	NANT UTERUS	74	Coyon, Singer, Jacoud.....	58
Diagnosis. Tecce, J. H. Musser, H.		Treatment. K. Franz.....	74	Chronic Articular Rheumatism.	
C. Wood.....	41	ERYTHEMA CAUSED BY PRIMULA		Bänmiller.....	64
Treatment. J. B. Bradbury, W. W.		ACAVULIS	74	Complications. Dickinson, Beach,	
Bostwick, Rumpf, J. H. Musser.....	42	Etiology. Actandor.....	74	Steiner, Bannatyne.....	60
ARERHIC	43	Symptoms.....	74	Diagnosis, in Children. Cheadle.....	59
Physiological Action. Byrom Bram-		EXTRA-UTERINE RUPTURE OF		Etiology. Chronic Rheumatism.	
well, Walker Overend, Comby,		BLADDER	74	Chrostek.....	59
Schirizern, Czerny and Trunck.....	43	Treatment. J. F. Mitchell.....	74	Treatment. Foster, Jacoud, H. W.	
ASTHMA	45	EXTRA-UTERINE PREGNANCY	74	Crouse, Eshner, Cheadle, H. C.	
Etiology. J. C. Bowie.....	45	Diagnosis. Mayo Robinson.....	74	Wood, Max Olney, Sokoloff, Edi-	
Treatment. J. C. Bowie, F. I. Knight.		FRACTURE BETWEEN BASE OF		torial in Therapeutic Gazette,	
BARLOW'S DISEASE	45	CRANIUM AND BONES OF FACE.		Siredey, Lemoine, Vidal.....	60
Diagnosis. L. S. Hughes, Nasgell.		Shumann.....	75	Treatment of Chronic Articular	
Treatment. L. S. Hughes.....	46	FRACTURE	75	Rheumatism. Ott, Schüller.....	64
CANCER	46	Treatment. E. A. Tracy.....	75	RHEUMATOID ARTHRITIS	77
Treatment. Bolton Massey, C. D.		GONORRHOEA	53	Treatment. G. A. Bannatyne.....	77
Spivak, M. L. L. Levcchine, Des-		Treatment. Christian, Pontoppidan,		SYPHILIS	78
peignes.....	46	Orrville Horwitz.....	53	Treatment (Abortive). Pontoppidan.....	78
CARDIAC DYSPEPSIA	72	HÆMOPHYYSIS. English.....	75	TORTICOOLLIS	78
Etiology. A. Morrison.....	72	HEART-WOUNDS. Lewis.....	76	Treatment. J. Collins.....	78
CEREBELLUM, ABSENCE OF ONE-		KYPHOSIS (JUVENILE)	76	TOXEMIA	78
HALF OF	73	Etiology.....	76	Treatment. W. McKown.....	78
Post-mortem. T. H. Neubürger and		LARYNX, CARCINOMA OF	76	TYPHOID FEVER (GENERAL RE-	
L. Edinger.....	73	Diagnosis.....	76	VIEW)	65
CHLOROFORM. Leonard Hill, H. C.		Treatment. J. P. Clark and F. B.		Diagnosis of Perforation. Finney.....	69
Wood and W. S. Carter, Hobart A.		Harrington.....	76	Diarrhoea and Perforation. Wm.	
Hare.....	47	NEPHROPTOSIS (MOVABLE KIDNEY)		Oster, Finney.....	69
Deterioration of Chloroform. New-		Treatment. Symons Eccles.....	77	Pathology. Oster.....	65
man and Ramsay.....	48	NIGHT-SWEATS OF FETUS	77	Surgical Treatment. Monod and Van	
Pathological Effects. Friedlander,		Treatment. Wm. Murrell.....	77	Verta, John B. Deaver, Finney.....	69
K. Ajello.....	48	OBESITY	54	Treatment. Oster, F. E. Hare, S.	
Prevention of Accidents. Arnold.....	48	Treatment.....	54	Solis-Cohen, J. T. Wheeler, J. F.	
Treatment of Collapses. S. T. Reid.....	49	OPERATIVE PERITONITIS	77	Toughy, Duchenne, A. J. Downes,	
CHLOROFORM VERSUS ETHER (EDI-		Treatment. H. von Erlach.....	77	J. Murray-Gibbes, Ketcher, Owen	
TORIAL). Sajous.....	71	PERICARDITIS	54	F. Paget, Herbert Bramwell.....	65
CHOLERA	73	Diagnosis. Ewart, Wm. Broadbent.....	54	UTERINE DISEASE	78
Prophylaxis. E. H. Hankin.....	73	Treatment. J. B. Roberts, C. B.		Etiology. L. D. Bulkley.....	78
CHOLERA. Wm. Oster.....	49	Porter.....	56	Treatment. E. M. Simons.....	79
Prophylaxis. A. Gordon Paterson.....	50	PERNICIOUS ANÆMIA	56	UTERINE FIBROID	78
Treatment. J. P. West, H. E. Drake,		Diagnosis. Byrom Bramwell, W. B.		Treatment. A. H. Goelke.....	78
Brockman, T. Telford Smith, Wm.		Ransom, G. von Voss, J. B. Cole-		WOUNDS	79
Oster.....	49	man.....	56	Sequeis. Samuel W. Robinson.....	79
CYSTITIS	73	Treatment. Blumenau, Alexander		Treatment. R. Winslow.....	79
Etiology. M. Melchior.....	73	McPhedran.....	57	REVIEWS	79
DIPHTHERIA	50	PURPERAL SEPTICÆMIA	77	Reference-book of Practical Thera-	
Pathology. J. J. Thomas, C. M. Hib-		Treatment. King.....	77	peutics, by Various Authors.	
bard.....	50	RHEUMATISM (GENERAL REVIEW)		Foster.....	79
Treatment. Lindsey Porteous, J. W.		Acute Articular, Bacteriology.		NEW BOOKS RECEIVED	80
Washburn, Trumpp.....	51			MONOGRAPHS RECEIVED	80

Cyclopædia of the Year's literature.

ANGINA PECTORIS.

Diagnosis.—A special variety of musical heart-murmur, resembling a feeble groan or chirping of chickens, is a new sign described by Tecce.¹ Capozzi had already noticed this murmur, and invariably found at the necropsy a perfora-

tion of one of the valves. He describes the case of a man, aged 30, suffering from anginal attacks, in whom there was a double aortic murmur, the diastolic part of the murmur being musical. The apex-beat was in the fifth space, outside the nipple-line. There was no history of rheuma-

¹ La Riff. Med., April 2, '97.

tism, but a clear history of syphilis. Death occurred during one of the attacks of angina. At the autopsy the mitral valves were found normal; the aortic valves were thickened, two cusps being adherent; the third was perforated near the aortic parietes, but not adherent. The coronary arteries were healthy.

Rendu, some time ago, emphasized the fact that, while true angina is always associated with cardiac lesions, these do not always give rise to appreciable physical signs, the lesions being only discovered after death. The differential points which he found most reliable are the following:—

True angina pectoris is very rare before the age of forty.

The pain commences always in the heart, while in pseudo-angina it is ascribed to the arm and radiates in several directions.

In true angina the attacks are infrequent, the patient being likely to succumb in the second or third attack.

It is generally induced by effort, emotion, and disorders of digestion.

It occurs in the day-time, while in false angina the attacks are generally nocturnal.

The sufferers are pale and can neither stir nor breathe. In the false angina they are agitated, get up from bed, and run to the window for fresh air.

J. H. Musser¹ infers the presence of dilatation of the heart by the physical signs of displaced apex-beat, gallop-rhythm, a soft, regurgitant murmur in the tricuspid or mitral area, by venous phenomena, and by the congestions, cyanosis, and dropsy that attend this affection. The results of cardiac percussion may be confirmatory, but are not looked upon as essential in the diagnosis of cardiac dilatation. Five cases to illustrate the following propositions:—

1. When dilatation of the heart supervenes in a patient the subject of an attack or attacks of angina pectoris the subjective symptoms may subside. At the same time the physical type of the individual changes.

2. Angina pectoris may occur in a patient who has had dilatation of the heart when the organic condition (dilatation) is removed by treatment.

3. True angina, when it occurs in dilatation of the heart, admits of a prognosis more favorable than when it occurs with other mural conditions, as myocarditis or hypertrophy, without dilatation.

4. Grave cases of dilatation of the heart, conversely to the above, may be looked upon as amenable to successful treatment if the patient should have paroxysms of true angina pectoris.

5. In the treatment of angina pectoris digitalis is of doubtful value, except if there is an excess of dilatation.

6. The pain of angina appears to be due to increased intraventricular pressure, although other causes are, no doubt, operative.

Horatio C. Wood² expresses the view that if angina pectoris is due to increased intraventricular pressure, we should expect the arterial system to play the chief rôle and not the heart. The action of nitrate of amyl is interesting in this connection: it relieves the aorta and takes away the resistance of the heart. Digitalis has a curious effect; and its use suggests this theory: if angina pectoris can be stopped by hypodermic injections of the nitrite of amyl, we can, if we give enough aconite, do away with intraventricular pressure altogether. If this is true, digitalis must be death to the heart in angina pectoris.

Treatment.—ERYTHROL-TETRANI-

¹ Amer. Jour. Med. Sciences, Sept., '97.

² Med. Record, June 5, '97.

TRATE.—To illustrate the great value of this drug J. B. Bradbury¹ mentions a severe case in a physician, in which erythrol-tetranitrate (1-grain doses) was taken steadily, at eight hours' interval, as a prophylactic. For three weeks there was immunity from attacks, although some weariness and oppression came on after six or seven hours from taking the tablets. Since then he has taken it four times each 24 hours with marked relief.

The initial fall of the pulse-tension depends on the mode of administration. If the drug is given in spirit and water (1 grain in 1 drachm of alcohol and 7 drachms of water) the tension begins to fall in from two to three minutes; if given in a pill and swallowed, the time is from twenty to forty minutes; if taken in tablet form and masticated, the time lies somewhere between the two. The best form of administration is undoubtedly the tablet. The alcoholic solution sometimes irritates the stomach.

HYOSCINE.—In a case in which all the usual remedies had become useless W. W. Bostwick² tried hyoscine upon the assumption that angina pectoris was a neurosis of the sympathetic. An injection of $\frac{1}{75}$ grain of hyoscine hydrobromate was given. In fifteen minutes the patient was relieved; and in half an hour she was sleeping quietly. This dose, although larger than safe, was not followed by any poisonous symptoms. There was slight dizziness, and a perceptible flushing of the face.

DECALCIFICATION.—Accepting the hypothesis that angina is dependent upon calcification of the coronary arteries Rumpf³ argues that decalcification of these arteries is indicated by increasing the elimination of lime. If a person is put upon a diet poor in lime, an abundant elimination of the same is provoked in him, if he takes, at the same

time, a solution composed of the following:—

R Sodium carbonate, 150 grains.
Lactic acid, a sufficient quantity to saturate it.

Add

Lactic acid,
Syrup, of each, 2 $\frac{1}{2}$ drachms.
Distilled water, 6 ounces.

This amount to be taken during the day.

This also acts as a diuretic and the quantity of lime eliminated is increased from 50 per cent. to 52 per cent. A diet which is poor in lime also indicated.

Daily diet: meat, about eight ounces; bread, fish, potatoes, and apples, each, three ounces. This contains ten times less lime than a corresponding quantity of milk, or four times less than the diets advocated by Hoffmann as substitutes for milk. The potatoes may be replaced by fresh beans, cucumbers, or peas. Cheese, eggs, beets, cabbage, rice, and spinach, all of which are rich in lime, are contra-indicated. These measures were employed in twelve cases of angina and atheroma. In three cases of angina pectoris the success was remarkable.

DIGITALIS.—J. H. Musser⁴ states that in angina pectoris digitalis is of doubtful value, and it should not be given unless an excess of dilatation be present.

ARSENIC.

Physiological Action.—Byrom Bramwell⁵ observed a case of pernicious anæmia in which there developed an herpetic eruption on the forehead during the arsenical treatment. Mr. Jonathan Hutchinson has directed attention

¹ Brit. Med. Jour., April 10, '97.

² Med. Record, May 8, '97.

³ Berliner klin. Woch., March 29, '97.

⁴ Amer. Jour. Med. Sciences, Sept., '97.

⁵ Lancet, July 24, '97.

to the fact that herpes zoster is in some cases apparently the result of arsenic.

The author calls attention to the great interest of this case, especially when it is remembered that arsenic is a specific in many cases of recurring herpes of the vulva and in pemphigus.

CHOREA.—Walker Overend¹ emphasizes the fact that large doses of arsenic are necessary to produce a beneficial influence in subduing the movements; this is best seen after the movements have existed for some time,—weeks or months,—that is, when a cure seems almost hopeless. The drug should be given after food, and the little patient should lie down for half an hour afterward in order to avoid nausea and vomiting.

French physicians are especially prone to use large (very large) doses. Comby,² for instance does not hesitate to administer the drug regardless of physiological symptoms. Out of 12 cases reported as having been thus treated and cured in the short period of from seven to thirteen days, some had nausea or vomiting, 2 had notable gastric embarrassment, 1 had arsenical paralysis (although this disappeared entirely), and 1 had passing pigmentation of the upper extremities.

Schirler³ mentions the case of a 15-year-old child of a distinctly neuropathic tendency, with a history of articular rheumatism, who was suffering from chorea minor, the spasm involving the left sterno-mastoid and splenius capitis. Ascending doses of Fowler's solution were ordered until very large doses were taken. At the end of thirty-two days as much as 2 drachms had been ingested, when the patient developed herpes nasalis, and, a day later, a chill and high fever with herpes labialis, and laryngealis and paræsthesia of one side of the head.

CANCER.—The radical cure of epithe-

lioma by arsenous acid is again brought forward by Czerny and Truneck.⁴ Arsenic in powder proving abortive, a solution of arsenous acid in equal parts of rectified spirit and water, of the strength of 1 part of the acid to 150 of the menstruum was employed. The authors emphasize the fact that the first step is to thoroughly cleanse the sore by vigorously rubbing or scraping the raw surface, a moderate quantity of blood being allowed to flow: a procedure which must not be very agreeable to the patient. The surface of the ulcer is then thoroughly moistened with the solution, shaken up before using, and allowed to dry, preferably without dressing of any kind. A scab forms, over which the solution is applied daily. The margins of the scab tend to separate from the subjacent tissues; the treatment is continued until the scab is only retained in place by a few loose adhesions. Those are divided and the scab removed and a fresh application of the arsenical solution is made. If, on the following day, the resulting scab is thin, of a light-yellow color, and easily detachable, it indicates that the tissues no longer comprise any trace of cancerous growth. If, on the other hand, a dark-colored, firm, and closely adherent scab again forms, the whole treatment must be repeated. The thicker the resulting scab, the more energetic should be the treatment—that is to say, the stronger should be the solution, the strength of which may then be increased from 1 in 150 to 1 in 100 or even to 1 in 80. When the desired result has been attained there remains a granulating wound, covered with a delicate, white pellicle, to be dealt with on general principles.

¹ *Lancet*, July 31, '97.

² *La Médecine Moderne*, Aug. 19, '96.

³ *Schmidt's Jahrbucher*, Jan., '97.

⁴ *La Semaine Médicale*, May 10, '97.

ASTHMA.

Etiology.—According to J. C. Bowie,¹ barometric changes play an important rôle in the production of a paroxysm. Then a fall in the barometric pressure takes place, the asthmatic subject develops and passes through a series of symptoms of an identical nature to those which are observed when men are suddenly removed from additional atmospheric pressures to the normal. This force, which differs so vastly in its intensity, establishes a series of symptoms which vary only in their severity and immediate results. Should death take place under these conditions, the post-mortem appearances may be compared with those observed in death from carbonic-acid poisoning, and their further identity will be apparent.

Treatment.—Appropriate treatment should raise the osmotic resistance of the cells that govern the lymph-transudation in the alveoli and capillaries, so that they will withstand the influences exerted upon them by the changes in the barometric pressure and other atmospheric conditions, annul the inflamed state of the bronchial walls, and establish a normal state of the mucous membrane and glands of the bronchi and the epithelium of the alveoli, as far as the pathological changes admit.

Intralaryngeal injections of the following solutions are used, the quantity of the solutions injected and the amount of the agents contained in each injection being in accordance with the patient's age and condition. One drachm will be sufficient for a child from 5 to 10 years of age, 2 drachms from 10 to 15; after this, from 3 to 5 drachms will suffice at each sitting:—

FIRST SOLUTION.—A 5-, 10-, 15-, or 20-per-cent. solution of menthol in olei amygdalæ.

SECOND SOLUTION.—Two to 5 minims of a 2 1/2-per-cent. solution of pure crystals of iodine in olei amygdalæ, added to each drachm of the first solution.

THIRD SOLUTION.—Five minims of a 10-per-cent. solution of olei lupuli in olei amygdalæ added to each drachm of the first.

F. I. Knight² reports the case of a physician who changed his residence and practice several times during his life, on account of asthma, and who finally got relief by going back to the place from which he started.

BARLOW'S DISEASE.

This affection, which is not, as a rule, described in text-books, is peculiar to infants, especially at the close of lactation. Barlow ascribed it to improper food and particularly to the absence of fresh milk from the dietary when the mother's milk is no longer supplied to the infant. He considers it as closely related to rachitis, while Heubner associates it with scorbutus.

The symptoms are pain in the limbs, marked anæmia, sweating of the head, elevation of temperature, sensitiveness of the bones, and cachectic appearance. Although the long bones are involved in the pathological process, the joints remain unaffected, and the sharpest pains appear to be located in the diaphyses of the bones. The suffering is accentuated by any attempt at moving. The joints are not swelled as in rheumatism. The gums are spongy, swelled, and show a bluish discoloration; they bleed when the teeth appear. Subperiosteal hæmorrhage is an important feature of these cases. Gastric derangement is frequently present. Œdema of the extremities may characterize advanced cases, although oc-

¹ Edinburgh Medical Journal, May, '97.

² Boston Med. and Surg. Jour., March 25, '97.

casionally observed early in the course of the disease. The urine is often bloody; the stools likewise. Hæmorrhagic spots of the surface are often observed. There may also be hæmorrhagic swelling of one or both eyelids.

Diagnosis.—The exquisite tenderness and pain, the œdema, the hard swellings above the joints, the pseudoparalysis, and the wasting and anæmia make up a remarkable train of symptoms in this disease; but still more striking is the wonderful way in which they all vanish when once the proper treatment is commenced. (L. S. Hughes.¹)

Naegeli² records a rapidly fatal case of this disease in a child, 11 months old, who had been supplied with insufficient and improper food. It died in three weeks with all the typical symptoms of the malady: blood-extravasation under the periosteum of bones of leg and elsewhere, fracture of femur, and inanition. There was no history of syphilis and nothing to indicate that the malady was rachitic in nature. Barlow's disease is clearly a chronic general affection of young children due to unsatisfactory feeding, accompanied by changes in the blood and bones, and complicated later by a distinct hæmorrhagic tendency.

Treatment.—Marked case treated with boiled milk and a tablespoonful of orange-juice and raw beef-juice. The next day the patient was somewhat better, but the pain was still present. Ordered the milk not to be boiled and a few drops of lime-juice in addition, to be given twice a day. Three days after the diagnosis was made and change of diet begun, the swellings were smaller, and the pain had evidently entirely disappeared. (L. S. Hughes.¹)

CANCER.

Treatment.—Betton Massey³ has used

CANCER. TREATMENT.

with success, in eight cases, metallic electrodes with high milliampèreage: 1000 or more. Both electrodes were applied within the cancerous area in a manner presumed to cause diffusion of the metal into and throughout the cancerous tissue by cataphoresis. The metal thus diffused was supposed to be oxychloride of mercury, and it was believed to reach the cancerous or sarcomatous elements which had become disseminated into the surrounding healthy structures. Two cases were cured, two were apparently cured, and two were benefited. In two the treatment failed to permanently arrest the disease.

C. D. Spivak⁴ has collected sixty-one cases under the care of fourteen observers, and found that thirty-three cases had been improved under chelidonium majus. (1) He concludes that it undoubtedly has some influence upon cancerous tissue which requires further investigation; (2) that the experiments are not numerous enough to warrant definite conclusions; (3) that the drug being very unstable, many of the unfavorable cases may be attributed to the inefficiency of the preparation; and (4) that probably the technique of the administration is not yet perfected.

Injectations of cultures of the erysipelas streptococcus were tried in ten cases of cancer by M. L. L. Levchine,⁵ which produced: marked reaction, local and general; burning sensation, swelling, nausea, fever; later weakness; and in two cases albuminuria. But they had a manifest influence on the progress of the growth, which were almost all cancer of the breast; the pain ceased. In five cases

¹ Australasian Med. Gaz., Oct. 20, '97.

² Correspondenzblatt f. Schweizer Aerzte, Oct. 1, '97.

³ New York Med. Record, July 10, '97.

⁴ Therap. Gaz., No. 4, p. 229, '97.

⁵ Bull. Méd., Jan. 3, '97.

the tumor decreased by half and the glandular enlargement disappeared. Culture from the mixture of the streptococcus and the bacillus prodigiosus seemed the most efficacious.

Despeignes¹ describes a case of rapidly-growing cancer of the stomach treated by exposure to Roentgen rays; the patient exposed twice a day, half an hour each time; very marked improvement. The tumor, previously as large as the head of an eight-months' foetus, diminished in size. Cancer supposed to be a parasitic affection and susceptible to Roentgen rays in the same manner that tubercle has been shown by Lortet.

A case in which exposure to the Roentgen rays produced considerable benefit was also described by Voigt, of Hamburg, in a letter to the author just quoted. A cancer of the left side of the tongue had been exposed daily, between fifteen and thirty minutes, to the influence of the rays, and was rendered practically painless, although previously $\frac{1}{2}$ -grain injections of morphine had to be frequently resorted to. The growth of the neoplasm, however, had, in no way, been curtailed. Intercurrent pneumonia carried the patient off two months after the treatment was begun.

CHLOROFORM.

Some interesting points have been adduced upon this anæsthetic during the past year. Most evident among these is the increasing evidence tending to show that, practically, the conclusions of the Hyderabad Commission have proven too sweeping. Indeed, the mortality tends more to show that to overlook the state of the circulation or even to grant but an unconscious attention to the condition of the pulse while administering chloroform is to overlook a danger-signal of considerable value in many cases.

Mr. Leonard Hill² believes the cause of chloroform collapse is, in all cases, a primary failure of the circulatory mechanism. It is secondarily that respiration fails, on account of the anæmia of the bulbar centres. This is contrary to the conclusions arrived at by the Hyderabad Commission. Examining all the tracings taken by this commission, he has found that in them, although it is not so interpreted by the experimenters, the same typical fall of arterial pressure is recorded actually occurring before the cessation of respiration. Thus their own experimental evidence contradicts the conclusions arrived at by the workers of the commission.

H. C. Wood and W. S. Carter³ contend that lowered arterial pressure has a comparatively feeble effect upon the respiration, but, when the pressure falls sufficiently, respiratory depression does occur. Even excessive lowering of blood-pressure primarily stimulates the vasomotor centre, the sensibility of the centre being evidently necessary to the automatic regulation of the circulation. In applying these conclusions to the subject of practical anæsthesia, it is evident that the depression of the circulation produced by chloroform has effect upon the respiratory centres only when the pressure has fallen very low, and, while it may be a factor in the production of respiratory failure during chloroformization, the failure must be chiefly due to the direct influence exercised by the drug upon the respiratory centres.

Hobart A. Hare,⁴ doubtless, presents the question in its proper light when he says that the truth as to whether chloroform causes death by respiratory failure

¹ Lyon Méd., July 27, '97.

² Treatment, May 27, '97.

³ Jour. of Exper. Med., May, '97.

⁴ Gaillard's Med. Jour.; Mass. Med. Jour., Nov., '97.

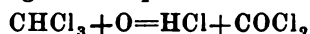
or by cardiac failure lies half between the two antagonistic forces. The initial process, or the cause of death from chloroform, is usually vasomotor depression and depression of all vital functions, that involving blood-pressure being the most important.

Pathological Effects.—V. Friedlander¹ studied the urine of one hundred male patients before and after chloroform narcosis, and considers that the alteration of the kidney is a tissue-lesion which removes the power of inhibiting the loss of serum-albumin, the causes of which lie in the poverty of oxygen in the blood, the destruction of blood-corpuscles by the chloroform, the injury to the tissues by the liberated chlorine, and, lastly, the lowering of blood-pressure. As evidence for the occurrence of a tissue-lesion, the author regards the fact that in forty-four out of fifty-six cases investigated upon this point, after narcosis the urine contained nucleo-albumin.

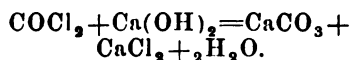
K. Ajello² published the result of a study of 214 cases of chloroform anæsthesia in which the urine was carefully examined. Albuminuria occurred in 80 per cent. of the cases, lasting from two to six days. Sugar and acetone were never found. In 60 per cent. casts were present, mostly hyaline, but also a few epithelial and granular. All degrees of changes were found in the kidneys: from simple hyperæmia and capillary hæmorrhages to extensive coagulation necrosis of the renal epithelium.

Deterioration of Chloroform.—Newman and Ramsay³ point out that chloroform rapidly deteriorates as an anæsthetic by keeping. When freshly-distilled chloroform is administered, the vapor is easily inhaled and produces but little irritation in the air-passages and little excitement. If carefully given,

sickness, fainting, and irregularity of the pulse and respiration seldom occur during its administration. But if chloroform is kept in a bottle containing air, exposed even to feeble light, changes are produced in the drug which render it less suitable as an anæsthetic. The change is due to the formation of carbonyl-chloride and hydrogen chloride, according to the equation



These substances render the vapor slightly pungent in odor, and on inhalation it produces irritation in the air-passages. The period of excitement of the patient is more marked and the liability to sickness during and after anæsthesia is greater. The comparative effects of freshly-distilled chloroform and of chloroform supplied in the ordinary way have been shown to be greatly to the advantage of the former. By shaking chloroform with slaked lime and filtering, the irritating products of decomposition are eliminated, the hydrochloric acid is neutralized by the lime, and the carbonyl-chloride—which probably causes the sickness—is resolved into carbonate and chloride of calcium.



Perfectly pure chloroform is said to be a much less stable body than chloroform containing alcohol.

Prevention of Accidents.—Arnold⁴ calls attention to the fact that a patient may take in a sufficient quantity of chloroform-vapor in one or two deep inspirations, over which the anæsthetist has no control, to endanger the centres of respiration. The secret of safe administration is a very gradual increase

¹ Vierteljahrsschrift f. gerichtl. Med., Dritte Folge, B. 8, Supplement, H., p. 94.

² Monograph, Milan.

³ Lancet, Jan. 23, '97.

⁴ British Med. Jour., Dec. 12, '96.

supplied to the patient while putting him under. Once the patient is under, the amount must be reduced to the minimum, continuing to supply him constantly; anæsthesia may thus be maintained continuously for hours with perfect safety.

Treatment of Collapse.—S. T. Reid¹ highly recommends strychnine in the treatment of chloroform collapse, and cites a case of chloroform poisoning in which nearly half a grain of strychnine was injected; prompt recovery ensued. The tabloids of strychnine were used; strength, $\frac{1}{50}$ grain; of these 22 were used, making the total just under the half-grain. The great value of strychnine lies in its virtue as a stimulant to the respiratory centre; it thus maintains life while the vapor is being exhaled. The drug, however, must be used boldly.

The use of the electrical current in acting upon the respiratory centre at once, and by increasing the current rapidly, also keeps the respiratory mechanism in action during the dormant stage of strychnine immediately after the injection is given. Dr. Reid contends that with these two agents at hand one ought to be able to treat any case of chloroform poisoning with success.

CRETINISM.

The evidence at present available warrants, in the opinion of William Osler,² the conclusion that the changes characteristic of cretinism, endemic as well as sporadic, result from loss of function of the thyroid gland.

Treatment.—**THYROID GLAND.**—Case of cretinism, after two years' treatment by J. P. West,³ very remarkably improved. During the first year of treatment an attempt was made to keep the child on as large a dose of the thyroid

extract as possible. It was found after trial that the child did best on 1 grain a day. After nine months $1\frac{1}{2}$ grains (Parke, Davis & Co.), twice a day. During the first year of treatment she grew eight and one-fourth inches and gained fourteen pounds,—i.e., nearly doubled her weight. After she had been under treatment a year, the thyroid was stopped for three months, and during that time the peculiar appearance of the cretin returned, and she became much more stupid. She was then put back on $1\frac{1}{2}$ grains a day, and this was kept up until the first of this year. Since then she has had $1\frac{1}{2}$ grains twice a week, on alternate weeks.

Case of advanced cretinism in Hindoo boy treated by thyroid extract by H. E. Drake-Brockman.⁴ Thyroid treatment was begun by administration of 3 grains of the dry extract by the mouth daily. Thyroid enlargement diminished fully two inches in the space of one month; the lad, both physically and mentally, has shown marked improvement. Dose increased to 5 grains daily. Marked and steady improvement continued, but marked absence of patellar reflex,—a prominent symptom in tabes dorsalis, in which Brown-Séquard has used orchitic fluid; administered to patient 5 grains of didymin daily as well as the thyroid extract. After a fortnight signs of the reflex returning; patient became much stronger on his legs.

According to T. Telford-Smith,⁵ during thyroid treatment the rapid growth of the skeleton leads to a softened condition of the bones, which results in a yielding and bending of those which have to bear weight; as cretins under

¹ British Med. Jour., Nov. 20, '97.

² Amer. Jour. Med. Sciences, Oct., '97.

³ Pediatrics, Nov. 15, '97.

⁴ Lancet, Oct. 2, '97.

⁵ Lancet, Oct., '97.

treatment become more active and inclined to run about, this tendency to bending has to be guarded against. If any bending of the bones of the legs appears, the child should not be permitted to walk for a time, or the legs should be supported by light splints. The diet should be generous, and the child should get plenty of sunlight and open air. The administration of codliver-oil and Parrish's food would probably prove beneficial at the same time.

Mental change was brought about by thyroid treatment in cases treated by William Osler.¹ Even with a couple of months the alteration in the mental condition is noticed. The patients look much brighter and their faces are not absolutely expressionless. As a rule, the younger the case, the more marked is the mental change. Young cretins who have not learned to speak a word soon begin to talk in their play. In children between six and ten the effects are even more remarkable, and with the loss of the myxœdematous condition there is a corresponding awakening of the mental faculties. In older patients the treatment is not so efficacious. A grain of the desiccated gland three times a day in young cretins preferred. Its effects should be carefully watched, and the amount reduced if the pulse becomes more rapid or if there is fever. Older patients may take as much as 5 grains in the day, and the amount may be diminished as the symptoms indicate. Young patients bear the remedy very well, and in a few months, if no improvement is noted, larger doses must be tried. Unpleasant effects are less commonly seen than in the myxœdema of adults. After the disappearance of the myxœdema and the establishment of the processes of growth and development, a very moderate dose seems

sufficient: one or two 5-grain tablets a week. Intermission for a month or six weeks does not seem to be followed by any striking change, but an intermission for a longer period is followed by symptoms indicating a relapse. (See also reports of 54 cases treated with thyroid gland and extract by various authors in the article on "Animal Extracts" in SAJOURS'S ANNUAL, vol. i, '98.)

Prophylaxis.—Thyroid extract was tried by A. Gordon Paterson² in the case of a young woman in her third pregnancy who had given birth to two cretins in successive pregnancies. One tablet taken every day during the last seven months of the pregnancy. At no time did she suffer from any discomfort; on the contrary, she was much better throughout than she had been in the previous pregnancies. The child was a fine healthy female, indistinguishable from any other infant in appearance. At the age of 5 months the infant was remarkably fine and intelligent and could sit up firmly. She is now able to stand and to say several words, though only 11 months old.

DIPHThERIA.

Pathology.—J. J. Thomas³ states that the heart is generally enlarged in this disease. Tachycardia is of serious import, death usually occurring when the pulse exceeds 150. Bradycardia indicates serious heart trouble; and irregularities of the pulse and systolic murmur occur in about 10-per-cent. of cases; a *bruit de galop* usually indicates a fatal termination. If no heart symptoms develop for four weeks, they rarely develop at all. In fatal cases alterations are

¹ Amer. Jour. Med. Sciences, Oct., '97.

² Lancet, Oct. 2, '97.

³ Boston Med. and Surg. Jour., Feb. 10, '98.

found in the pneumogastric nerves and the weight of the heart is increased.

C. M. Hibbard¹ expresses the opinion that the chief changes in the nervous system are parenchymatous degeneration of the peripheral nerves, to which interstitial changes—hyperæmia and hæmorrhage—are sometimes added. Acute, diffuse parenchymatous degenerations in the fibres of the brain and cord may occur, or more seldom interstitial lesions of these structures; changes in the cells are rare. Parenchymatous or interstitial changes may be found in the muscles, especially the myocardium. Sudden death occurring from cardiac failure is probably due to the effects of the toxins upon the nervous structure of the heart. The fact that the posterior columns of the cord, more frequently than the anterior columns, exhibit changes in their fibres tends to show that these fibres have less resisting power, as they are frequently found affected in other diseases as well as in diphtheria.

Treatment.—Lindsey Porteous² reports that in a case of severe diphtheria in a girl 8 years of age the sight of the syringe almost caused a convulsive attack, and on no account would she permit it to be used. Porteous, after disinfecting a silver spoon by boiling, administered the antitoxin by the mouth, to which no objections were made. The results were entirely satisfactory both in this and three other cases. The author notes that antitoxin is not rendered inert by changes in the stomach, and that this is an easy method of treating nervous children.

J. W. Washburn³ argues that the injection of antitoxic serum constitutes a specific treatment which is based upon accurate experimental observations. The amount of serum requisite to insure protection when administered after infec-

tion is much greater than that required when the injection and the inoculation are simultaneous: the longer the administration of serum is delayed, the greater the quantity required, and after a certain period, no amount, however large, has any effect.

The bacilli are almost entirely confined to the primary seat of invasion and much benefit may be expected from the local application of antiseptics, though it is doubtful how far they are efficacious in faucial diphtheria. For children a good plan is to thoroughly syringe out the fauces, the child lying on its side during the process (the same method may be employed for adults, but gargling is generally less disagreeable) with: formalin, 1 to 500 or 1 to 250; permanganate of potash, 15 grains to the ounce; saturated solution of boric acid; or chlorine solution, made by placing 4 drachms of chlorate of potash and 90 minims of strong hydrochloric acid in a stoppered bottle, and gradually adding 30 ounces of water. A solution of perchloride of mercury, 1 to 1000, in quantities of 2 or 3 drachms, may be used as a spray, and the same method of application may be adopted with formalin or other antiseptics. Sprays are less disturbing than syringing or gargling, but are not so efficacious.

Another method is to paint the throat, by means of a camel's hair brush, with perchloride of mercury, formalin, or with a solution consisting of a drachm of liquor ferri perchloridi in an ounce of glycerin. Another is to apply powders to the fauces with an insufflator: perhaps sulphur is the best.

If there is much pain a solution of cocaine (5 per cent.) may be applied with

¹ Boston Med. and Surg. Jour., Feb. 3, '98.

² Medical Record, Dec. 25, '97.

³ Treatment, Feb. 10, '98.

a brush or as a spray, and the sucking of ice and application of fomentations to neck gives relief. In nasal diphtheria the various solutions recommended for gargles may be applied in the form of a douche.

On account of the danger of heart-failure, the patient should be kept in the recumbent position until convalescence is well established; he should not be allowed to get up as long as there is the slightest sign of irregularity or weakness of the pulse. Plenty of easily digestible, nourishing food should be taken, and a certain amount of alcohol may be allowed.

No drugs have a direct influence upon the course of the disease, but a mixture containing iron and strychnine is, perhaps, useful as a routine treatment.

Persistent vomiting is a serious complication, and often exceedingly difficult to control. It is best treated by careful feeding; but, should this fail, a complete rest should be given to the stomach, the patient being fed by nutrient enemata.

Cardiac complications are most serious. In simple cardiac failure, the organ becomes irregular or intermittent, and the pulse weak, and either rapid or abnormally slow. In another type the symptoms are more allied to those of angina pectoris; in addition to cardiac failure there are attacks of abdominal pain or vomiting. Abdominal pain should always be viewed with anxiety, and the condition of the heart carefully observed. In case of cardiac complication the patient should be kept absolutely quiet in the recumbent position. In simple cardiac failure, cardiac stimulants are sometimes of decided benefit: strychnine, caffeine, and digitalis. In the anginal type belladonna appears to have a beneficial influence.

In cases of diphtherial paralysis the patient should be kept in bed as long as the paralysis is progressive, especially as there is danger of the heart becoming affected during this period; when the paralysis has been stationary for a fortnight or three weeks, the patient may be permitted to get up. Here iron and strychnine are useful, while belladonna sometimes appears to arrest the spread of the paralysis. Galvanism and massage will assist in restoring the muscles to their normal condition, but should not be resorted to as long as the paralysis is progressive.

In paralysis of the nerves of the pharynx and larynx, asphyxia may be caused by the impaction of food in the larynx, or broncho-pneumonia by particles of food getting into the lungs. When food sets up choking or coughing, the diet should be restricted to jellies.

In paralysis of the abductors of the cords and danger of dyspnoea, it may be advisable to perform tracheotomy or intubation.

When the secretion of urine is diminished an attempt should be made to stimulate the kidneys by dry cupping the loins, by application of poultices, and by digitalis and caffeine.

Directly there is any indication of laryngeal obstruction, the patient should be placed in a tent with the air warmed and moistened by means of a steam-kettle. In children, attacks of dyspnoea are often checked by a hot bath. Should obstruction to respiration appear, tracheotomy or intubation may be performed; tracheotomy is decidedly to be preferred. It is inadvisable to perform tracheotomy unless the services of a skilled attendant can be obtained, who is capable of putting in the tube when displaced, or of keeping the trachea open

with forceps until the medical man has arrived.

As regards intubation, Trumpp¹ expresses some doubt as to its universal value. Few, also, he thinks, know how to properly remove the tube. There are disadvantages attending the thread method, and especially because the fixing of the tube thus produced does not permit of its free play, and hence causes erosion of the parts. The extractor, on the other hand, is hardly possible in private practice, as a sudden stoppage of the tube by membrane may cause suffocation unless the tube can be withdrawn without delay; it also requires considerable skill, especially where a small tube sinks deeply into the larynx. Where attempts at extraction cause a small tube to sink further down, press with the thumb on the trachea, just below the cricoid cartilage, where the end of the tube can be felt, when the cough thus produced forces the tube out; this method of expression never fails. The pressure may be made with both thumbs, the fingers finding support on the neck; it should be directed inward and directly upward; and, if more powerful pressure is exerted, the tube may be forced, not only into the mouth, but even completely out of it. No disadvantages attend this method.

GONORRHŒA.

Treatment.—Argonin, a soluble silver-albumin salt, prepared by mixing sodium casein with silver nitrate and then adding alcohol until precipitation occurs has been used with success in gonorrhœa by Jadassohn in 1895. In 9 cases out of 12 treated by Lewin the gonococci disappeared within two to six days after the beginning of the treatment, and subsequent bacteriological researches did not reveal the presence of the organism

again. Hence, argonin is destructive to the gonococci; and it has the advantage over all other antiseptics in not causing any irritation in the urethra. It can, therefore, be applied in the earliest stages of the disease. Bender also used it with great success in seventy-two cases of males, and one hundred and fifty-eight females. The urethritis in both sexes rapidly subsides during its use, and the patient is more speedily restored by this treatment than by any other drug extant, as the gonococci are destroyed between two and six days.

Argonin was employed by Christian² in ninety cases of gonorrhœa, eighty being acute: used in 5-per-cent. solution by the patient as a hand injection, the fluid being held in the urethra five minutes after each operation.

The author concludes:—

1. That it is absolutely unirritating and can be used in solutions of from 1 to 10 per cent.
2. In the great majority of cases it lessens the discharge very rapidly.
3. Its use is generally followed in a short period by a disappearance of the gonococci.
4. That this disappearance of the gonococcus is not in all cases permanent; in other words, there is in quite a large proportion of cases a distinct tendency to relapse, with reappearance of gonococci.
5. That it possesses distinct value as a hand injection in the stationary period of the disease, but is of very little benefit in the mucous stage, or stage of decline.

6. It produced no results in the treatment of chronic anterior urethritis.

Pontoppidan,³ in order to abort the

¹ Munch. med. Wochenschrift, Jan., '98.

² Therapeutic Gazette, July 15, '97.

³ Ugeskrift for Lager, '97.

disease, first disinfects the urethral orifice; then, after micturition, a few drops of a solution of silver nitrate (1 to 50) are introduced, by means of Guyon's instrument, into the fossa navicularis. This method is only employed when gonococci are found; when the deeper parts of the urethra are not yet affected; when the deeper layers of the mucosa are in a healthy state, no evidence of pain or infiltration being present; and when the cases are recent and have not been subjected to any treatment. From 1891 to 1896, inclusive, one hundred and twenty cases were found suitable for treatment in an abortive way, and fifty-two successes were secured. The method is quite harmless, and only once was any trace of blood found in the discharge.

In one hundred and five cases Orville Horwitz¹ gave 2 grains, three times daily, of methylene-blue, with nutmeg to diminish the chances of diarrhoea or strangury. This caused lessening of discharge in four or five days, and its cessation at the end of two weeks. Copaiba and sandal-wood were also administered. When unpleasant results followed administration of the methylene, the dose was reduced one-half. The drug will not abort gonorrhoea, and was of little avail when the gonococcus could not be demonstrated.

OBESITY.

Treatment.—The selective action on adipose tissues shown to attend the increased metabolism brought about by the use of thyroid extract and the decided increase in the nitrogen excretion sustain the use of this agent in obesity. The effects have been irregular, however, some patients responding readily to the influence of the remedy, but others not doing so. The views of

French authors in this particular perhaps afford an explanation, namely: young, vigorous, and plethoric subjects who are good livers, receive little or no benefit from thyroid treatment, but are benefited by a dietetic regimen. On the other hand, fat persons that are pale, soft, and flabby, and inclined to œdema, receive benefit from the ingestion of the thyroid gland. They lose weight rapidly, oxidation is increased, and nutrition is improved. We are again brought face to face with conditions showing some of the elements of myxœdema.

Besides the dangers attending the use of thyroid in any case, the only source of untoward effects is the giving of large doses at first, the organs, especially the heart, being thus exposed to the effects of undue reaction. In appropriate cases, the remedy is taken without trouble, and the effects soon show themselves. After a time the reduction in weight is proportionately smaller, and discontinuance of the treatment is followed by recurrence, in the great majority of cases, until the former weight is reached. To maintain the advantage gained, however, dieting and small doses of thyroid at longer intervals may be utilized with advantage. Charin obtained a reduction of forty pounds in one of his cases, but was disappointed in two others, doubtless because they had not been properly selected.

Frederick Guttmann observed that palpitations and fainting fits followed the use of large dose.

PERICARDITIS.

Diagnosis.—There is a quadrilateral-shaped, dull area at the posterior thoracic base in cases of pericardial effusion, which is of material aid in diagnosis, and

¹ Phila. Med. Jour., Feb. 19, '98.

termed by Ewart¹ the "pericardial dull patch." It extends vertically from either the ninth or tenth rib, according to the amount of the effusion, to the twelfth rib, and horizontally from the spine to a point just within the angle of the scapula on the left side, while on the right side it does not reach more than half the distance. The outline of the dullness is well defined, giving the mapped-out area a definite, quadrilateral shape. Under normal conditions the area is resonant on percussion; but the occurrence of a pericardial effusion tends to diminish the factors which normally give a resonant note over this area and to increase the factors producing dullness. The following are the most likely influences: 1. A slight upward displacement of the compressed base of the lung. 2. A slight downward displacement of the anterior portion of the left hepatic lobe under the weight of the pericardial effusion without any marked depression of its posterior portion. 3. A corresponding depression of the stomach, with or without slight depression to the left. This "pericardial dull patch" is essentially of hepatic origin, owing to the change produced in the position of the liver, and is not the dullness produced by the effusion itself. It occurs normally in children under four years of age and is due to the greater size of the liver and to the shortness of the lung, allowing the former to come more directly into contact with the post-thoracic wall. It may also be found sometimes in phthisical patients where the left lung is contracted. Nevertheless, the sign is a very valuable one in the diagnosis of pericardial effusion. While cardiac hypertrophy might give the same sign, it was not met with in simple enlargement.

William Broadbent² declares that par-

tial adhesions may give rise to neither symptoms nor physical signs, and even adhesions involving the entire surface of the heart may be attended with little or no interference with functional efficiency, and, therefore, with no appreciable hypertrophy or dilatation, or disturbance of circulation calling attention to the heart, provided there is no outside adherence of the pericardium to the chest-wall. It is a mistake, however, to suppose that the absence of symptoms or signs deprives the lesion of any importance because (though under normal circumstances the action of the heart may not be impeded) it may hamper the right auricle or ventricle in case of bronchitis, or interfere with compensatory hypertrophy of the left ventricle in renal disease or other condition attended with high arterial tension. Still more it may aggravate the effects of valvular disease or the degenerations of old age.

Broadbent, also, calls attention to the post-mortem records at St. George's Hospital, London, between 1890-'93, which show that, of 87 cases of heart disease, 31 gave evidences of adherent pericardium. He quotes Sturges's figures from the Great Ormond Street Hospital, where, of 100 cases of heart disease, only 6 were free from pericardial adhesions. He also points out that the size of the heart in this condition varied greatly. Sometimes normal or less than normal, in size it was usually enlarged, being hypertrophied and dilated. In 6 cases which he has collected the diagnosis was made during life and confirmed post-mortem; they proved rapidly fatal. The myocardium is also frequently affected. He calls attention also to the early onset of cardiac dullness due to cardiac dilatation. This

¹ British Med. Jour., Jan. 23, '97.

² British Med. Jour., Jan. 15, '98.

diminishes as convalescence supervenes; but, if adhesions form, the dilatation may be rendered permanent. If, therefore, the heart remains enlarged, he infers that adhesions have formed before the organ had time to regain its proper size. The indications which suggest the existence of adherent pericardium are: the persistence of the pericardial rub for a long time; the persistence of cardiac dilatation and a prolonged convalescence, especially if marked by a temporary improvement followed by unaccountable recurrence.

Treatment.—J. B. Roberts¹ adduces further evidence in favor of his contention that pericardial effusions should be treated in the same manner as pleural effusions, paracentesis being insufficient to cure suppurative pericarditis. Incision and drainage are essential, and should be executed as soon as the diagnosis of pus in the pericardium is made. The diagnosis of the purulent character of the effusion is determinable only by exploratory puncture. This should be done at the upper part of the left xiphoid fossa, close to the top of the angle between the seventh cartilage and the xiphoid cartilage. Pericardiotomy should then be done after resection of the fourth and fifth costal cartilages, raising a trap-door of these cartilages and using the tissues of the third interspace as a hinge. The mammary vessels and pleura are thus exposed and pushed to the left. The prognosis is good after pericardiotomy for pyopericardium. The author gives a list of 26 collected cases showing 10 recoveries and 16 deaths. Of the fatal cases, 9 were septic, and all the others which died had complicating lesions,—pulmonary, cardiac, or renal.

C. B. Porter¹ contributed an illustrative case operated on the manner described by Roberts. The patient was in

excellent health and able to ride a bicycle a considerable distance without fatigue. The author states that the operation is indicated in all cases of purulent pericarditis. The operator should avoid opening the pleural cavity, open the pericardium opposite the point where drainage would remain good after contraction of the sac, and secure permanent free drainage.

PERNICIOUS ANÆMIA.

Diagnosis.—Byrom Bramwell² analyzes in an instructive manner a typical case characterized by very rapid development and no known cause, intestinal or other. The notable features were:—

Absence of organisms in the blood. (The author recognizes, however, that this by no means proves that in all cases of pernicious anæmia micro-organisms are absent from the blood.)

Presence of Eichhorst's corpuscles in the blood. These small, deeply-stained corpuscles are, in his experience, rare. He had never seen them so numerous as they were in this case.

Intensity of jaundice; yet the stools were of a deep-orange and the urine only contained a faint trace of bile.

The urine was never very dark.

Absence of parasitic organism in the stools.

Temporary presence of albumin and a few hyaline tube-casts in the urine (the temporary presence of albumin is, in his opinion, quite exceptional in cases of pernicious anæmia. The hyaline casts were probably the result of the jaundice.) In his experience—and this important clinical fact is not, he thinks, sufficiently known—hyaline casts are almost invariably (he is disposed to think in-

¹ Med. News, May 8, '97.

² Lancet, July 24, '97.

variably) present in cases of well-marked jaundice.

Copious uric-acid deposits in the urine. The author had met with one or two other cases of pernicious anæmia in which large quantities of uric acid were deposited in the urine; in one case the patient suffered from recurring attacks of gout.

Absence of any degree of cardiac dilatation and of cardiac murmurs. (Regarding the extreme degree of the anæmia, these were remarkable features of the case, and are, perhaps, explained by the rapidity of the course of the disease and the short time that it had been in existence when the patient came under observation.)

W. B. Ransom¹ notes that blood destruction always plays a part in the pathogenesis, but evidence shows that disease of the normal hæmogenetic tissues, in spite of compensatory activity of the medulla of the long bones, without increase of the normal hæmolytic processes, can also produce the same group of symptoms. Pernicious anæmia may be due to increased hæmolysis caused by toxins absorbed from the digestive tract or elsewhere, or to excessive fragility of new-made red corpuscles with normal hæmolysis.

G. von Voss² states that in cases of pernicious anæmia the degenerative changes in the cord sometimes observed are not the result of mere anæmia, but are more probably the result of hitherto undiscovered chemical agents. A thorough examination of the metabolism in pernicious anæmia might, perhaps, throw further light on the question.

J. B. Coleman³ records a case, aged 67, admitted to hospital complaining of weakness and dyspnoea. The patient had been growing pale and weak for two or three months, during which time he had

occasional attacks of diarrhoea and vomiting; extremely anæmic; temperature from 99° to 101° F.; urine normal in quantity and acid in reaction, without sugar or albumin, but giving urobilin spectrum and a marked indican reaction; urea, 2 per cent. His blood was of a specific gravity of 1034; fresh specimens showed great variation in size and shape of red cells, which had no tendency to form *rouleaux*. Hæmoglobin reduced to 30 per cent. of normal; red cells, 1,000,000, and subsequently 800,000 per cubic millimetre; only 1100 white cells per cubic millimetre, but on the day of his death they mounted to 21,000. Stained blood-preparations showed poikilocytes, megalocytes, microcytes, and nucleated red cells, the latter comprising both gigantoblasts and normoblasts; some red cells had lost their hæmoglobin, and others showed polychromatophilic changes. He died three weeks after admission.

Treatment.—Arsenic was tried, but had to be discontinued; gastric sedatives, intestinal antiseptics, rectal injections of water, oxygen inhalations, and nutrient enemata. The post-mortem disclosed no lesion to account for the anæmia.

Byrom Bramwell obtained a remarkably rapid recovery, both in the condition of the blood, the jaundice, and other symptoms, but very large doses of arsenic were administered. Indeed, for several days the patient took no less than from 50 to 60 minims of Fowler's solution in the twenty-four hours.

Blumenau⁴ refers to a severe case of pernicious anæmia, complicated with cedema, ascites, and cardiac symptoms,

¹ British Med. Jour., Jan. 8, '98.

² Deutsche Arch. f. klin. Med., vol. lviii, p. 489, '97.

³ Pediatrics, June 15, '97.

in which 2½-ounce doses of fresh bone-marrow, administered daily in soup or on bread, brought about a cure in two and a half months.

Alex. McPhedran¹ relates the case of a man, aged 55 years, in whom blood-count showed 480,000 per cubic millimetre; hæmoglobin, 20 per cent. There was delirium, vomiting, and diarrhoea. Treatment by subcutaneous injections of normal, saline solution on every alternate day, and the intervening by saline enemata, with arsenic internally. The patient, at the time of the report, was practically well.

["Cure" in pernicious anæmia cannot be applied to any case until at least two years after cessation of treatment. Tendency to recurrence is one of the most prominent features of the disease.]

RHEUMATISM.

Though nothing very new has been evolved as regard rheumatism, in any of its forms, during the past year, a great deal of old material has been revamped and more thoroughly worked over, and to considerable advantage. The question of its bacillary origin is still a moot one, and has resulted in some confusion owing to researches *per se* imperfect in character and prematurely announced, and also owing to different results accruing to the studies of different individuals.

Acute Articular, Bacteriology.—Achalme² describes a bacillus isolated in twelve cases of acute articular rheumatism. It is a large rod not unlike that of anthrax with which it has perhaps been confounded. In culture media it forms filaments of variable length; is strictly anaërobic, slightly motile in young cultures, and forms terminal spores; stains well by the ordinary aniline dyes and also by the meth-

ods of Weigert and Gram; can be cultivated, anaërobically in the ordinary culture media, giving whitish growths with the formation of gas; milk is coagulated. Grows well between 30° and 35° C., but not below 25° C. or above 40° C.; liquefies gelatin, produces acids, and ferments saccharose without inverting it. Inoculated into animals it produces dilatation of the arterioles and thrombosis, negative chemotaxis, a serous effusion into the cellular tissues, and congestion and hæmorrhages into the serous membranes and viscera. It is pathogenic for the guinea-pig, mouse, and rabbit, but not for the dog.

A. Riva³ made researches in the same direction. Noting the different results obtained by different bacteriological examinations and the frequent negatives, he decided to employ a different culture medium, the chief characteristic of which is that it contains synovial fluid taken from the joint of a horse. Employing this, and using agar as a control, he obtained cultures that showed upon microscopic examination rounded bodies to which he has given the name of pseudospores. These are gradually replaced by two kinds of bacilli that are briefly described. He is very cautious in drawing conclusions, but is inclined to believe that the pseudo-spores or their bacilli are the cause of acute articular rheumatism.

Triboulet and Coyon,⁴ in December last, reported to the Paris Academy of Medicine that they had made sundry researches to find Achalme's bacillus in the blood in acute rheumatism, and in every case were able to isolate and cultivate a special kind of diplococcus completely different from the organism

¹ Canadian Pract., Nov., '97.

² Ann. de l'Inst. Pasteur, xi, p. 815.

³ Centralblatt für innere Medizin, Aug. 14, '97.

⁴ Lancet, Jan. 15, '98.

sought. Twice, however, they found the latter associated with the other and in each case the rheumatism was very severe and complicated. They also found the diplococcus in cultures made from a body which had upon post-mortem examination yielded Achalme's bacillus. It is an oblong coccus always occurring in pairs, about two microns in diameter, to some extent anaërobic and not decolorized by Gram's method. Achalme's bacillus seems to accompany the graver forms of rheumatism and to be the special cause of complications.

Singer,¹ of Vienna, also examined ninety-two cases of acute rheumatism with a view of discovering if possible a specific bacillus, and in a great number ascertained the presence of staphylococci and streptococci. He remarks post-mortems explain why arthritic effusions in acute rheumatism are often found to be free from microbes, for here the bacteria may reside solely in the periarticular tissues. Still he believes the forms just mentioned are the actual cause of acute rheumatism and acute rheumatic arthritis, as these evidence their pyæmic nature by a marked relationship to erythema multiforme, sore throats, etc. He cannot accept the view that the salicylates are actually specific.

Jaccoud² insists that the infectious nature of rheumatism is beyond doubt when its mode of evolution, its diffuse character, and the fact there is intra-uterine transmission from mother to fœtus are taken into consideration. In many cases some preceding local process has been observed serving as a point of invasion to the organism (whatever it may be) that is the cause of acute rheumatism. Among these, the most important is tonsillitis, and a striking fact is that the organisms found are exactly the same as those occurring in the tis-

sues which are the seat of the location. The pharynx, tonsils, in fact any tissue showing a lesion, may allow the organism to enter.

Etiology, Chronic Rheumatism.—Chvostek,³ at the Congress für innere Medicin, stated there is no ground for supposing chronic rheumatism to be of bacterial origin; the great variability in the course of the disease is strongly opposed to any such view. The only two characteristic features of the disease are the joint swellings and the transitory duration of these. The most satisfactory explanation is to regard the symptoms as due to toxins, which are produced in the body but are not produced by micro-organisms. Bacterial invasion gives rise to a very different kind of joint inflammation, characterized chiefly by its long duration, and the large amount of swelling which accompanies it.

Diagnosis, in Children.—That the risk of cardiac complications in acute rheumatism is in inverse proportion to the age of the patient is well known, and W. B. Cheadle,⁴ recalling this fact urges the great importance of making an early and correct diagnosis in children. The mistakes made in diagnosis arise chiefly from the fact that in early youth the symptoms of arthritis—acid sweats and pyrexia—are less prominent; arthritis is at its minimum, endocarditis, pericarditis, chorea at their maximum; pleurisy, tonsillitis, and the vasomotor and hæmorrhagic phenomena, the erythemata and purpura, are more common, tending to decline as puberty is passed. There is also a special tendency in children for the various phases of the affection to arise independently and

¹ Berliner klin. Woch., No. 31, '97.

² Jour. de Médecine de Paris, Apr., '97.

³ Fortschritte der Medicin, June 15, '97.

⁴ Treatment, vol. i, May 13, '97.

apart from one another. So an endocarditis or a pericarditis may arise in a rheumatic child not only without any accompanying joint affection but, in rare instances, without any recognized rheumatism phenomena to give warning. When endocarditis or pericarditis arises in a child there is always a strong *primâ facie* presumption that it is rheumatic. If, with the cardiac affection there is chorea, fibrous nodules, tonsillitis, erythema exudativum, pleurisy, whether these have occurred recently or have cropped up at intervals through months or years the cardiac inflammation is almost certainly rheumatic.

As the heart affection is so serious in children this organ should be carefully examined whenever any of the above-mentioned group of rheumatic symptoms are met with, and in every feverish attack, simple though it may appear, the condition of the heart must be regularly ascertained, for though the temperature may seem to have no rheumatic origin, it may in reality be due to this cause and be accompanied by serious cardiac inflammation.

Complications.—The complications that may be encountered in acute rheumatism are varied, as is well known, but Dickinson, of London, and Beach, of New York, chronicle two cases that are somewhat rare, if not unique. The former¹ encountered a case of mixed rheumatism and typhoid as supposed, which on convalescence developed diphtheria. The use of antitoxin caused a relapse of the rheumatism in its most serious form, including heart complications. With convalescence from the diphtheria, pneumonia developed to complicate the rheumatism, which followed a very painful and adynamic course, in turn complicated by pleuritic effusion. Recovery is credited to most

excellent nursing rather than to other therapeutic measures employed. The rheumatism disappeared spontaneously with the pleuro-pneumonia.

Beach's case² had developed an orchitis from sleeping in a damp bed, followed by pain in the muscles of the legs and later by mild cystitis and urethritis; then there was an exacerbation of the swelling of the testicles followed by an attack of acute articular rheumatism. Careful search failed to show any evidence of gonorrhœal infection.

Steiner,³ who apparently has no knowledge of the previous reports of Bury and others, gives brief notes of thirty-five cases in which there was tenderness over nerves and pain along their course. He suggests that in such there is an affection of the nerve sheath comparable to inflammation of the pericardium and pleura; further that many of the so-called rheumatic muscular paralyses may be thus explained; but that these perineuritic complications are not dependent upon the age and constitution of the patient, though females appear to be more liable than males.

Gilbert Bannatyne,⁴ speaking of the fact that the question of heart affections in rheumatoid arthritis is one which has given rise to much discussion, quotes two cases which apparently go to prove that such is possible. Endocardial lesions, he thinks, are found with a comparatively greater frequency than is imagined; but he feels assured that pericardial lesions are less common than are supposed.

Treatment.—Foster⁵ advocates placing between blankets and where the joints are affected wrapping them with

¹ *Lancet*, Jan. 15, '98.

² *New York Med. Jour.*, March 13, '97.

³ *Deutsches Archiv f. klinische Medicin*, vol. lviii, p. 237, '97.

⁴ *British Med. Jour.*, Jan. 15, '98.

⁵ *Pennsylvania Med. Jour.*, Feb., '98.

wool to promote excretion from skin. Moving the bowels freely in the early part of the attack, feeding on liquid, animal, well-cooked foods in small rations, giving from 8 to 12 pints of pure water daily, and keeping the atmosphere of the sick room dry, are the principal hygienic factors; in other words, moistening the patient thoroughly on the inside, conducting the moisture away from his body with wool, and dry atmosphere will cause the evaporation of much rheumatic poison without the aid of medicine. The remedies most useful are agents which have a distinctly preservative and antiseptic action on the tissues: quinine, tincture of iron chloride, potassium iodide, methyl-salicylates, phenyl-salicylate, sodium salicylate, acetanilid. The cold bath is probably one of the last, but not least useful remedies when there is hyperpyrexia, which resists other treatment. The local hot-air treatment also seems to be worthy of further investigation, for J. Black, of Detroit, reports favorably of it in several cases, though H. C. Wood notes that he has tried it with little success. Quinine is a remedy which sometimes succeeds when the more commonly used agents fail, but large doses are required. Iron is an agent of some value. Iodide of potassium combines an alkali with an antiseptic and is a valuable agent in subacute and chronic cases, but not useful in acute attacks. Methyl-salicylate is an agent which has gained in favor; it does not irritate the stomach, acts as a preventative of fermentation, is useful as a local application, and may be considered a fair representative of the salicylates. Elmer Lee treats the disease with rain-water only, and advises the drinking of three or four quarts every twenty-four hours, and reports a series of cases cured by this simple treatment.

Turkish baths have a place in the treatment of both subacute and chronic rheumatism. The salicylates markedly influence temperature and pain in the early stages of acute rheumatism, and lessen the length of an acute attack, but they do not lessen the frequency of complications and do not prevent relapses.

Jaccoud¹ insists that grave consequences may result from the employment of sodium salicylate in acute rheumatism with visceral localizations, for it neither cures nor prevents them, but may favor production. The drug should be suspended when delirium sets in before the diagnosis of cerebral rheumatism is established, or if the delirium be of an alcoholic or hysterical nature, or result of any intoxication. In cardio-pulmonary complications the same is true. Salicylates lower the fever and relieve pain, but do not influence at all these localizations. By persisting in their employment, involvement of the myocardium is hastened.

H. W. Crouse² reports a case of diaphragmatic rheumatism treated by sodium salicylate, tincture of passiflora, tincture of bryonia, tincture of macrotis, hyoscyamine, and mercurials.

Eshner³ often, in acute rheumatism, prescribes strontium salicylate instead of sodium salicylate. He claims the former is not likely to irritate the stomach as much as the sodium salt, while it has the same action, and is free from the effects of salicylism; the dose should be one-half more than the dose of the sodium salt, and on account of insolubility, it is usually best given in powder dissolved in hot water.

In the rheumatism of children Cheadle⁴ believes full doses of sodium

¹ Lyon Médicale, March 14, '97.

² New York Med. Jour., Jan. 29, '98.

³ Philadelphia Polyclinic, Dec. 11, '97.

⁴ Treatment, No. 5, '97.

salicylate are not required; and they may be harmful from their depressant affects. "The milder drug, salicin, may be substituted in most cases in doses of 5 to 20 grains; or quinine in doses of 1 to 3 grains every four hours. In each case an alkali, sodium or potassium citrate, should be combined and given in doses according to age. The use of depressant drugs, as antipyrine, antifebrin, aconite, with a view of lowering temperature, cannot be too strongly deprecated.

"Gibson found that in acute rheumatism treated by rest escaped permanent heart-lesion in the proportion of two to one compared with those permitted free action. When pericarditis supervenes, if there is much pain and distress, one or two leeches may be applied to the præcordia; but anything like profuse extraction of blood is positively harmful. Small children do not bear much loss of blood. The most effective local application is that of the ice-bag.

"In the deadly form of cardiac inflammation, which is perhaps the most characteristic feature of the rheumatism of childhood,—persistent, recurrent, sub-acute endocarditis, and pericarditis,—opium, digitalis, and strophanthus, with an alkali, are the drugs of most service. Alcohol is also a most useful agent, as much from its sedative as by its stimulant property.

"As a last resource, in the case of older children only, when the heart shows signal signs of failure, when the first sound becomes short and feeble, and the pulse small and irregular, hypodermic injections of liquor strychniæ, combined with brandy or digitalis, afford the most powerful means of resting the flagging again. Usually, however, this only effects a brief rally and respite from the final collapse."

In rheumatoid diseases of the joints

and tendons H. C. Wood¹ is of the opinion that the local, hot, dry-air bath which has been so much lauded, is of little value; that it has probably a field of usefulness in subacute gouty inflammations with deposits about the tendons and their sheaths, or parts outside of the joints, and is of great service in the treatment of ligamentous inflammations and in tenosynovitis, whether of rheumatic or of traumatic origin. He has tried all temperatures, but finally settled upon one ranging between 270° and 320° F.

Max Olmy, of Halle,² tried phenocoll hydrochloride in acute articular rheumatism in sixteen cases, in doses of 15 grains three times a day. In three it failed; in all the others it acted promptly. In cases that were not of long standing the pain diminished after 8 scruples had been taken, and complete recovery after 6 drachms. The average time of treatment was thirty days, and better results were obtained than with salicylate of sodium. The influence of the remedy on temperature is reported as quite variable.

Sokoloff³ reports four cases of articular rheumatism in children treated successfully by Roentgen rays. The child in each instance was covered with bed-clothes, at a distance of fifty to sixty centimetres from the tube, then exposed to the action of the rays from ten to twenty minutes. In one case the symptoms disappeared after two exposures. In another, the pain and swelling of a knee-joint disappeared after a single exposure. The third was cured after three exposures. In a fourth case, which had had a damaged heart for five years, with an intensely painful and swollen knee-joint flexed to an angle of about 45°,

¹ Med. News, July 17, '97.

² N. Y. Med. Jour., Feb. 20, '97.

³ Wratich, No. 46, '97.

after every exposure the angle of flexion increased, and the pain was alleviated; and after four exposures it disappeared altogether.

An editorial writer in the February, 1897, number of the *Therapeutic Gazette* calls attention to the value of salicylate of methyl in rheumatic affections, and Siredy¹ especially praises it in articular rheumatism, applied locally: a procedure that is by no means new, having been advocated by Bochefontaine in 1879. In another contribution² he emphatically declares the salicylate of methyl must not be confounded with essence of wintergreen, as the latter product is much less pure and has not the same active property, besides having a more unpleasant odor, and being more irritating to the skin. The part having been washed is laid upon a sheet of gutta-percha tissue, and the salicylate now applied directly on to the skin over the affected joint drop by drop, and the gutta-percha tissue immediately brought over so as to completely envelop the affected part; a flannel bandage is then applied in the ordinary way. A thin layer of cotton-wool may be used if the patient does not find it disagreeable or hot. The salicylate dressing may be renewed twice in the twenty-four hours if the pains are very severe, and the quantity applied may vary from 50 to 120 drops according to circumstances. It does not produce any unpleasant effect on the skin, merely a slight degree of redness, which is painless and without irritation.

In acute polyarticular rheumatism the application of salicylate of methyl is well nigh impossible. Here Siredy would administer it internally in large doses. In subacute and chronic cases where fewer joints are affected, and these distally, salicylate of methyl seems to have ex-

tremely satisfactory results, being much more marked than those of salicylate of soda. The pains disappear in two or three hours after the first application. The existence of heart complications is no contra-indication. The same treatment is recommended for gouty arthritis.

Lemoine³ also declares the salicylate of methyl as identical in action, but more prompt than that of salicylate of soda; the absorption by the skin is as complete as by the digestive tract, and the traces of salicylic acid found in the urine are the same as accompany administration of salicylate of soda in equal doses. The former has an immense advantage over the latter in that it acts more rapidly in controlling pain; furthermore, symptoms of intolerance are altogether exceptional; there is neither tinnitus, vertigo, nor deafness, such as so often accrue to the sodium salt, and which may be referred to the irritant action of the drug on the stomach. "Finally, salicylate of methyl, applied to the skin, has a more marked effect upon the local manifestations of rheumatism and upon associated neuralgia. The usual dose is about 120 to 150 minims of a solution of oil of wintergreen in spirit containing 40 per cent. of salicylate of methyl. The solution should be sprinkled on a thin pad or gauze applied to the skin over the affected part, then covered with a piece of oil-skin sufficiently large to extend beyond the edge of the pad or to completely encircle the limb; the whole being fixed with a bandage so as to make it practically air tight."

Vidal⁴ is another who suggests compresses of either wintergreen essence or methyl-salicylate for the internal admin-

¹ *Presse Med. Belg.*, July 28, '97.

² *Jour. de Médecine*, Aug. 25, '97.

³ *Treatment*, Aug. 12, '97.

⁴ *Les Nouveaux Remèdes*, No. 20, p. 615, '97.

istration of sodium salicylate for patients whose digestive tracts it was necessary to spare; in a certain percentage various skin eruptions, ranging from simple erythema to recurring papular eczema, appeared. Fifty to 100 drops used upon a double layer of aseptic gauze covered with an impermeable dressing. "The natural and artificial essences are sold indifferently in the shops, and the former contains various hydrocarbons and 90 per cent. of methyl-salicylate, while the latter is pure methyl-salicylate made synthetically. Applications of each made upon the same subject showed that the latter did not produce any cutaneous disturbance. It is probable that the eruptions caused by the former can be explained as due to the undetermined resins contained."

Chronic Articular Rheumatism.—At a recent meeting of the German Congress for Internal Medicine, Bäumler¹ showed that the chronic articular rheumatism of French authors was, in Germany, the chronic form of acute articular rheumatism and corresponded to arthritis deformans; that this term arthritis deformans was understood in a different way by physicians and surgeons. In order to avoid confusion and to establish an absolute distinction between acute articular rheumatism and chronic articular rheumatism, he proposed to designate under the term arthritis deformans or polyarthritis deformans, the cases of chronic arthritis of subacute evolution which are often prolonged for many years, habitually apyretic, attacking a large number of articulations, and cause very profound deformities therein.

The cause or causes of polyarthritis deformans not yet known.

Bäumler thinks the bacteriological researches of Schüller, Bannatyne, and

Wohlmann furnish a basis for a hypothesis of infectious etiology.

Treatment of Chronic Articular Rheumatism.—Ott¹ believes the therapeutic measures may be divided into three classes: When the disease results from disturbance of nutrition characterized by an excessive production of acids, combat by large doses of alkalines. When the nervous system, treat with nervines, electricity, hydrotherapy, and tonics. When supposed to be of infectious nature, administer antiseptics internally and externally. The antiseptic treatment is, in a general way, the one which gives the best results. In acute exacerbations rest in bed and careful diet are indispensable; Priessnitz's compresses and wrapping the articulations in cold bandages render great service. Painting the articulations with methyl-salicylate also recommended. When the pain is very violent, narcotics may be used without danger. As a revulsive, tincture of iodine is useful and harmless. When articular effusions are very abundant and prolonged it is necessary to puncture the articulation. Salicylate preparations, colchicum, and salol are to be given. During the chronic period it is especially necessary to cause absorption of accumulated exudates by external means. Revulsives are employed, such as tincture of iodine and ichthyol. If articular effusion existed, the articulation is to be compressed. Baths should be employed only when all symptoms of irritation have disappeared. Hot baths, sand baths, and mud baths are particularly indicated. Diaphoretics may also be added; also douches, massage, and electricity. To ameliorate the general condition, quinine, iron, codliver-oil, potassium iodide, ichthyol, tincture of

¹ La Presse Médicale, July 3, '97.

iodine, and arsenic should be administered internally. In cases of grave alterations of the articulations, when the local processes are allayed, surgical intervention is sometimes indicated, such as resection of the capsule, osteotomy, etc.

Schüller¹ notes in the treatment of chronic articular rheumatism that the joints contain little or no fluid, and never pus. In connection with the condition which he described in 1893 as *polyarthritis chronica villosa*, which should be clearly separated from acute articular rheumatism, he found a special bacillus which occurs as broad, short rods. He had made use of repeated injections into the joint, generally of: iodoform, 20; acid-free glycerin, 250-400; guaiacol, 5. This is to be injected with a syringe which has been treated in a steam-sterilizer. Twenty-nine cases treated; in sixteen the chronic inflammatory process and the villous mass completely disappeared. Pain regularly, but fever seldom, resulted from the treatment, and this disappeared within two days. More rapid cure follows opening of the joint, after fixation, with removal of the diseased synovial membrane and the villous mass; the wound must then be sutured and the same material injected. The sutures and fixation apparatus removed after ten days, and about the same time motion is permitted; later, electricity, massage, inunction, and baths. The results are absolutely normal, movable joints.

TYPHOID FEVER.

Pathology.—William Osler² lays stress upon the generally overlooked fact that typhoid fever is a general infection with special localizations in the lymphatic tissues of the intestines, in the mesenteric glands, spleen, liver, and bone-marrow. He has not infrequently seen

most malignant cases with but slight involvement of Peyer's patches, and he describes a case in which there was a general infection without involvement of the lymphatic tissues of the intestine, although pure cultures of typhoid bacilli were obtained from the pneumonic lung, spleen, and from other organs.

Treatment.—Many physicians now believe that the key to the situation in treating typhoid fever is to be found in the intestines, an opinion which Osler considers as wrong in the worst possible way, in principle as well as in practice. Without minimizing the importance of the enteric symptoms or avoiding all medicines unless specially indicated, he recalls the fact that a large proportion of all cases do perfectly well without any interference with the bowels. In a series of 99 cases, pain in the bowels was complained of only in 23 cases, and it was rarely severe.

COLD-BATH TREATMENT.—F. E. Hare³ reports 1828 cases treated under the expectant plan during a period of five years with a mortality of 14.8 per cent., while under cold bathing carried out in 1902 cases, there was a mortality of but 7.5 per cent. Of the 143 fatal cases in the last series, 56 died from perforation and 23 from hæmorrhage, which, as compared to those dying from the same causes under the expectant plan, which used to cause only about one-fourth of the total deaths, would indicate an increase to more than one-half.

Solomon Solis-Cohen⁴ states that systematic bathing in cold water after the method of Brand is not always necessary, nor is every case bathed best treated by undeviating adherence to Brand's

¹ *Verhandlungender xv Con. für innere Medizin zu Berlin*, vol. cxxvii, '97.

² *Phila. Med. Jour.*, Jan. 1, '98.

³ *Australasian Med. Gaz.*, No. 186, p. 111, '97.

⁴ *Phila. Polyclinic*, Dec. 4, '97.

method. Water, however, should be used freely in every case, both internally and externally. In cases that promise to be severe, if seen before the tenth day, he advises systematic plunging in cold water, and that the directions of Brand should be followed. Between the tenth and twelfth days, however, it is doubtful whether plunging should be begun. After the twelfth day, plunging begun earlier, should be continued or discontinued according to circumstances. When plunging is not well-borne, frequent cold or cool sponging should be carried out, partly to reduce temperature, but largely to promote general metabolism, to stimulate excretion, and to keep up the tone of the peripheral vessels.

As to the frequency, when the temperature in the mouth does not exceed 103° F., the patient may be sponged every second or third hour, with water at a temperature of 70° F., which may, if necessary, be gradually reduced to 50° F. in the course of ten to twenty minutes.

When the temperature exceeds 103° F., sponging must be done at least every second hour, and the temperature of the water be correspondingly lowered; 60° or even 50° to begin with, and rapid reduction to 32° being useful at times.

The effects on temperature, pulse, respiration, excretion, sleep, and general comfort must be the guides as to the time, temperature, and other details of the application; as a rule, patients should be allowed to sleep undisturbed for about four hours, even when applications are being made every second hour during wakefulness.

To prevent or control tympanites or hæmorrhage, the continuous application of ice to the abdomen—usually over the right iliac fossa—is useful. In cases of

severe nervous and cerebral symptoms or very high temperature there may be continuous application of ice to both head and abdomen. The patient should be encouraged to drink cool water freely and frequently. Ice-water should not be used; the temperature of the beverage should be that found to be most refreshing to the patient.

J. T. Wheeler¹ states that in 120 cases of typhoid covering a period of twenty-three years of practice, exclusively by cold sponging, he has had but 1 death. He regards hæmorrhage from the bowels as a contra-indication to bathing. He considers it most important that the cold-bathing should be instituted early in the disease.

J. F. Toughy² reports a remarkable case in which, on four different occasions, the temperature chart reached the extraordinary height of 117° F. On two of these occasions the thermometers burst at the bulb with the mercury at the very top of the column. The case being such a remarkable one, Surgeon-Major L. B. Ward was requested to verify the temperature, and he found it on the forty-fourth day of the disease to register 114° F. For weeks the temperature was taken every fifteen minutes, as it used to run up in an incredibly short time, and it was felt that death must take place if hyperpyrexia were not controlled. The patient's ultimate recovery is ascribed mainly to the rapidity with which the temperature was brought down. The patient usually knew when the hyperpyrexia was coming on, and entreated to be put into the pack. She felt as if her heart "would burst with heat" and as if she had a tight cord tied round her waist. The author, "in common with many others," found the administration

¹ Medical News, Feb. 5, '98.

² Indian Lancet, May 16, '97.

of antipyretics disappointing, and has been forced to the conclusion that they are often injurious, and seldom to be depended upon in cases of hyperpyrexia. The snow-water pack never failed to bring down the temperature, and it was repeated every time the hyperpyrexia came on.

INTERNAL WASHING.—Internal bathing—*i.e.*, obliging the patient to drink as much as he will of inert liquids (teas, slightly-acid drinks, weakly alcoholic beverages) and giving a daily lukewarm enema of from 1 to 2 pints—is strongly recommended by Duchenne.¹ The diet is milk (not bouillon, which is poisonous if the kidneys be affected; not starches or clear soup), 2, 3, or 4 pints being given with two or three weak alcoholic drinks, but never astringents, nor wine. Rapid diminution of the diarrhoea and of the fever, which rarely exceeds 102.2° F after the fourth day of treatment, with convalescence on the twenty-first day were obtained in 33 out of 35 cases reported.

COLD.—The value of applications of cold to the abdomen by means of ice-bags over the ileum and beginning of the colon, the object being to obtain as low and constant a temperature as possible near the lesions, is extolled by A. J. Downes.² As the continuous use of the ice-bag causes congestion and sometimes sloughing of the skin, the necessity for regulated intermissions is evident. Applications of an hour and a half with half-hour intermissions is the best method, the time during which the ice-bags are on and off making two hours. When the temperature rises to 103° F. the ice may be allowed to remain on an hour and three-quarters, the time off being reduced to fifteen minutes. In temperatures above 102° F., sponging with ice-water and alcohol during the

intermission is an essential part of the system; even in moderate fever two spongings daily should be given. The idea is to inhibit the lesions to a degree at least, the arterial supply to the bowel being lessened by the stimulating action of cold on the arterioles. The efferent lymphatic vessels are also influenced, their calibre being diminished.

Prudden having shown that intermittent freezing and thawing continued but five times completely destroys bacilli, lowering the temperature of the bowel to or below 60° F., is thought to materially retard the culture process in the bowel. Again, cold thus brought in contact with intestinal coils, the innumerable vessels of the portal circuit are cooled; the cool blood passes through the liver, and emerges still cool from the hepatic vein, etc.: an antipyretic influence is thus procured.

COLD-AIR TREATMENT.—Dr. J. Murray-Gibbes³ recommends—theoretically—cold air in the treatment of typhoid fever. The patient would lie on a tube mattress and be covered by a second one. When the temperature is to be lowered, a cooling mixture, ammonia, etc., would flow through the tubes, bringing down the temperature of the surrounding air, as is that of storage-houses. No handling of the patient would be necessary, while the shock attending the immersion in a cold bath would be avoided. Attached to the cold-mixture tube would be another tube which could convey hot water, so that warm water could at first flow through the tubular mattress, and then, by means of taps, be gradually lowered to the required degree. Dr. Gibbes does not doubt that the cold-air method he proposes will keep down the

¹ Bull. Générale de Thérap., 20e liv., p. 627.

² Therapeutic Gazette, Mar., '96.

³ Australasian Med. Gaz., April 24, '97.

high temperature of typhoid fever, and so greatly lessen the death-rate. It could be more easily carried out than the cold-bath treatment and cause less disturbance to the patient.

GUAIACOL.—Ketcher¹ claims to have obtained excellent results in twenty-nine cases of typhoid fever by the use of guaiacol. The course of the disease was considerably modified by its employment, either when used internally or externally.

It will be remembered that guaiacol was recommended by H. G. McCormick, who has used it in a large number of patients, varying widely as to age. The greatest number of times it was applied to any single person was 78, and the least number of times once. The largest dose was 25 drops and the smallest 2 drops. He obtained in one case a reduction of temperature from 106.8° to 101°, in two hours, by the application of 5 drops, with a reduction of the pulse-rate from 136 to 110, the respiration falling from 36 to 28.

The effect of guaiacol lasts from three to four hours; the oftener it is applied, the greater the effect. Care should be taken to commence with a small dose—10 to 15 drops—gradually increased if necessary. Given internally, guaiacol does not markedly reduce the temperature. Ten drops given internally does not materially affect the pyrexia, while the same amount thoroughly applied reduces the temperature to a marked degree.

OLIVE-OIL.—Mr. Owen F. Paget,² while in Freemantle, West Australia, treated many patients who lived in tents and were unable to obtain fresh milk. In spite of this he had no deaths, while in those removed to the hospitals, where they were properly attended to and received suitable nourishment, the death

ratio was high. Mr. Paget attributes his success mainly to the use of olive-oil. Nearly all the patients suffered from constipation or diarrhoea when they first came under observation; during constipation the typhoid bacillus develops its infectious powers. This is followed by diarrhoea and solution of faecal accumulations. Being intensely irritating, the infectious fluids aggravate the condition of Peyer's patches, give rise to violent peristalsis and prevent rest of the inflamed tissues. A part of the fluid poured out, being reabsorbed and being saturated with ptomaines, induces constitutional disturbances, high temperatures, tympanites, exhaustion, delirium, abscesses and finally death. The problem, in the author's opinion, resolves itself into treating an inflamed and possibly ulcerated surface by rest and protection from irritating substances and collection of discharges. This he obtains by means of olive-oil. He gives it by injections into the bowel, a quarter of a pint to half a pint being used for the first four or five days at intervals of from twelve to twenty-four hours. The temperature almost always falls 1° F., and the patient becomes calm. After the fifth day it may be given every second day or left off entirely if the patient is having natural motions at least every twenty-four hours and if the temperature is steadily falling. If the patient does not respond to injections, the bowel being apparently empty, accumulation is to be suspected; the temperature runs up and the patient is seriously ill. He then gives olive-oil by the mouth: a large cupful at a time. The bowels almost certainly respond, and the injections may be continued. If the first dose is without effect, another may

¹ *Therapeutic Gaz.*, Sept. 15, '97.

² *Lancet*, Nov. 27, '97.

be given after twelve hours. He considers olive-oil a perfect boon.

SALOL.—According to Herbert Bramwell,¹ salol, when steadily and frequently given in small doses, either alone or combined with diaphoretics or astringents or other drugs, as indicated, until the urine has become slightly tinged, modifies cases which promise to result in a long and dangerous illness, so as to make them go through a mild and uncomplicated course of three or four weeks' duration.

Diarrhoea and Perforation.—For many years past Osler's² practice has been not to disturb the bowels in the course of the disease. With the exception of a few doses of turpentine for tympanites, or measures directed against hæmorrhage or active diarrhoea, he abstains from all active interference. Occasionally, for the constipation of convalescence, he gives castor-oil, but he never uses the so-called intestinal antiseptics. As a result, he points to the fact that in his 99 cases, diarrhoea occurred in only 12 cases, and that in not a single instance was it severe or protracted enough to require treatment.

In 5 cases there was hæmorrhage from the bowels, about the average percentage, but none of the cases died. There was no instance of perforation.

While gentle laxatives are not specially contra-indicated, Osler thinks free and active purgation at the onset of the disease is decidedly harmful. He quotes Graves's remark that "patients who have escaped active purgation before admission to hospital get through the disease with little or no tympanites."

Finney,³ of Baltimore, has collected fifty-two cases and found that perforation of the intestines occurs in from 1 to 2 per cent. of all typhoid-fever cases, and acts as a cause of death in between

six and seven per cent. of fatal cases. The perforation occurs in the last two feet of the ileum in over 80 per cent. of all cases; in the large intestine in about 12 per cent.; in the vermiform appendix in about 5 per cent. of all cases. There seems to be no definite relation between perforation and the severity of the attack and takes place in the mild as well as in the severe cases, while the symptoms marking its onset may be sudden and severe or very mild or be entirely wanting. It commonly occurs between the ages of twenty and thirty and in the third week of the disease. Over 83 per cent. of all cases die during the first week.

Diagnosis of Perforation.—Finney⁴ places most dependence upon sudden acute pain in the abdomen with symptoms of collapse, accompanied by an abrupt fall in the temperature. Vomiting is often present. Other symptoms, such as obliteration of liver dullness, gurgling sound on respiration, hiccough, etc., are useful when present. There is as yet no sign pathognomonic of perforation. The examination of the blood, however, promises to be of distinct diagnostic aid in this record. During the course of typhoid fever the number of white corpuscles gradually sinks, reaching its lowest point in about the end of the febrile period; with the development of the inflammatory complication there is a marked increase in the number of leucocytes, and one which takes place under no other known conditions.

Surgical Treatment.—Monod and Vanverts⁵ argue that although the results of surgical intervention in cases of diffused peritonitis consequent on in-

¹ Brit. Med. Jour., Oct. 23, '97.

² Phila. Med. Jour., Jan. 1, '98.

³ Johns Hopkins Hosp. Bull., No. 74, '97.

⁴ Rev. de Chir., Mar., '97.

testinal perforations of typhoid fever are not very encouraging, this lesion, if left to itself, is almost certainly fatal (95 per cent. of fatal cases), and it is justifiable to resort to an intervention the general results of which (88 per cent. of mortality) are better than those of expectation. The prospects of operative treatment are less unfavorable when the perforation has occurred at a late stage of typhoid fever, and particularly during the convalescence or at the end of a relapse. The surgeon, however, may act at any period of the fever at which the perforation is produced, provided there is no distinct contra-indication presented by the general condition of the patient; the operation should be performed with the least possible delay, a condition of success which may be taken advantage of, as an immediate diagnosis of perforation is possible in most cases.

The necessity for prompt surgical interference in typhoid perforation, also in typhoid fever complicated by appendicitis, was reviewed by John B. Deaver,¹ of Philadelphia. Perforation plays an important role in the mortality of typhoid fever, although a few cases undoubtedly recover without operation. The author states his experience has shown that by early recognition of perforation and by prompt surgical interference the mortality of typhoid fever may be to a considerable degree lessened.

Perforation is most common at the end of the second or during the third week, although in one of Osler's cases it occurred as early as the eighth day, and in another during the sixth week, two weeks after the evening temperature had become normal (Osler). Perforation may be associated with hæmorrhage; but it is not the rule.

The location of the perforation usu-

ally in the terminal twelve inches of the ileum and occasionally in the colon. The onset is sudden; there are vomiting and severe abdominal pain, immediately followed by pronounced general rigidity of the belly-walls and general abdominal tenderness, followed by abdominal distension. Rigidity of the abdominal walls is, in the author's opinion, a most important and significant sign. There may also be collapse, as evidenced by a sudden fall in the temperature even to the subnormal, rapid and small pulse, and pinched countenance. Deaver regards the occurrence of sudden, acute abdominal pain, with very decided general abdominal rigidity and tenderness, with or without collapse, as the strongest possible indication for immediate abdominal section. To wait after the advent of these symptoms for further corroborative evidence of perforation he considers is fatal, septic peritonitis with an abdomen filled with pus being sure to follow and ending in death.

Appendicitis occurring as a complication of typhoid fever is not common. It produces symptoms not unlike those seen in the disease when it is present as an independent affection. Usually a history of previous attack or attacks can be elicited. The sudden onset of pain referred to the epigastrium or umbilical region, nausea followed by vomiting, which ceases, as a rule, when the pain becomes localized in the right iliac fossa, the circumscribed tenderness which corresponds to the site of the appendix, and the circumscribed rigidity of the immediately overlying belly-walls will in the greater number of cases suffice to warrant the diagnosis of appendicitis. When appendicitis occurs in connection

¹ Amer. Jour. Med. Sciences, Feb., '98.

with typhoid fever the diagnosis cannot always be clear, because of the likelihood of perforation in the latter affection. Experience also teaches that typhoid fever is the cause of chronic appendicitis in a small percentage of cases. Prompt operation advised.

The best time for operation, according to Finney,¹ is apparently as soon as possible after the patient has recovered from the shock attending perforation. This is usually in a few hours. There is a remarkable uniformity in the condition of the peritoneum and viscera; intense congestion, much feculent pus and exudate, with distension of the bowel. As the ileum is the usual place of perforation, it should be examined first; a suture should be taken over any suspicious-looking patches, and the appendix should be removed if it be at all abnormal. If the inflammation does not involve the whole peritoneal surface,

irrigation with the necessarily mild fluids might tend to spread the infection. In dealing with the perforation, to excise the edges takes too long, and healing usually takes place without. Should the wall be in such a condition as to make suture impossible, it would be better to pull out the loop of intestine and leave it until the patient has recovered from his fever. The line of suture must be determined by circumstances; the mattress-suture is to be preferred. Drainage should always be employed.

Including all the cases that have been reported as operations for perforating typhoid ulcer, together with the six cases which he has collected himself, Finney states that the percentage of recovery is 32.68; including, however, all doubtful cases 45 are left, of which 11 recovered, —a percentage of 26.22.

¹ Johns Hopkins Hosp. Bull., No. 74, '97.

Editorial.

CHLOROFORM *VERSUS* ETHER.

ALTHOUGH ether is still preferred by the vast majority of American operators, the reported occurrence of grave disorders of the respiratory organs following its use have caused a few surgeons to resort to chloroform: a step which, it must be said, is not warranted by the facts of the case.

So competent an anæsthetist as our Associate Editor, Dr. Dudley Buxton, of London, has shown, after a careful study of the question, that, of the so-called cases of bronchitis and pneumonia following ether, but few are really due to that agent. In many cases, removal of the patient to a cold ward after he has been in a hot operating-theatre and subjected to severe surgical shock has been the true cause of lung trouble. In other cases pre-existing pulmonary lesions have been demonstrated. In others again, considerable cooling of the body has taken place, due to wet towels soaked in antiseptics freely laid over the chest-walls, or to the antiseptic spray, douche, packing, etc., employed. Bronchial catarrh, pneumonia, and pleurisy with effusion do follow operations: usually prolonged ones under

anæsthetics; but these diseases occur as well under chloroform as under ether, especially where proper precautions are not taken to prevent undue loss of heat from the patient's surface. Such precautions are especially important when we consider a feature of ether anæsthesia emphasized by H. C. Wood and W. S. Carter,¹ namely: that the circulation recovers itself more slowly after profound etherization than after a like chloroform narcosis. Indeed, it is possible for ether as well as chloroform to produce death some hours after the cessation of its administration, at a time when the cerebrum has long freed itself from distinct evidences of the narcotic, so that consciousness and intellectual action have been restored.

To abandon ether is evidently not the wise course when an anæsthetic presenting greater danger is to be employed instead. It would seem evident, from the foregoing remarks, that the avoidance, during the administration of ether, of anything involving loss of heat, such as the unnecessary application of moisture to any part of the cutaneous surface, undue exposure of parts entering in no way within the field of operation, etc., and care to keep the patient warm during the period of depression following ether administration, would go far toward the prevention of the pulmonary disorders that are charged to the anæsthetic, but which, in truth, should be ascribed to undue care on the part of the anæsthetizer. Were these features in the management of cases observed, the statement made by Gurlt, that deaths from the complications following the use of ether bring the mortality of this anæsthetic up to that of chloroform, would doubtless not hold good.

Cyclopædia of Current literature.

ABORTION.

Case of septicæmia superinduced by abortion treated primarily by curettment without appreciable improvement, but which rapidly convalesced after one injection of 10 cubic centimetres of anti-streptococcic serum.

A natural query is how far the serum was responsible for the cure, and whether the good result might not be the result of coincidence. Munro Campbell (*British Medical Journal*, Jan. 29, '98).

CARDIAC DYSPNŒA.

Etiology.—Cardiac dyspnœa is largely due to insufficiency of the right heart,

usually following valvular lesions of the left heart. Under these conditions, the pulmonary respiration, which is of great value in assisting the forward movement of the blood, loses its efficiency, through various causes, partly because a sufficient quantity of blood cannot remain in the right ventricle. Congestion of the lungs is not essentially a feature of the condition, as attacks of severe orthopnœa are frequently observed quite unassociated with any congestion or œdema, properly so-called; neither can imperfect aëration of the blood be an important factor. The main factor of causation doubtless is imperfect action of the heart; that

¹ *Journal of Experimental Medicine*, May, '97.

is to say, it arises from the reflex transmitted from the stimulated cardiac nerves to the accelerator fibres of the pneumogastriacs. Cheyne-Stokes respiration is also a symptom of nerves origin, being due to the exhaustion of the patient and the blunting of the cardio-respiratory reflex. A. Morrison (Treatment, Jan. 13, '98).

CEREBELLUM, ABSENCE OF ONE-HALF OF.

Post-mortem.—A man of 46 had suffered for some years from obstinate constipation. When he first came under observation there was, in addition, a tendency to attacks of unconsciousness, a weak heart, with bradycardia and symptoms of neurasthenia, but none of cerebellar or other organic disease of the nervous system. The attacks of unconsciousness became more and more frequent, and during them it was noticed that there was some turning of the head to the left, and left conjugate deviation. The heart presented very curious phenomena. During the intervals between the attacks the pulse varied between 12 and 16 beats per minute; then it would become less frequent and finally stop entirely. The attack would commence and the pulse would gradually reappear, increasing until, with return of consciousness, it was once more 12 or 16 beats. This condition is believed to be identical with that caused by irritation of the vagus in dogs. At the autopsy the thoracic and abdominal organs were found entirely normal. The myocardium in particular was perfectly healthy. The brain showed the following changes: The right hemisphere of the cerebellum was almost entirely absent; the left was normal. Both cerebral hemispheres were apparently normal. More careful investigation showed a small body, about the

size of a hazel-nut, that represented the absent hemisphere. The remainder of the posterior fossa of the skull was filled by a sac containing clear fluid. The right half of the vermiform process of the cerebellum shared in the hypoplasia; the right olive was absent; the right side of the pons, the right corpus geniculatum, and the right crus were all smaller than the corresponding portions on the left. Sections showed an absence of the corpus dentatum. The right vagus and acusticus nuclei were altered. The restiform body was very much diminished in size. The superficial fibres in the pons were almost entirely absent on the right side, proving their connection with the cerebellum. T. H. Neubürger and L. Edinger (Berliner klinische Wochenschrift, Jan. 24, '98).

CHOLERA.

Prophylaxis.—The number of micro-organisms in well-water may be materially reduced for several days by placing potassium permanganate in the well. This fact led me to attempt to check choleraic outbreaks in India by putting the permanganate salt in the wells of villages in which the outbreaks occurred. Enough was used to give the water a pink color until the following day, generally two or three ounces, and the procedure repeated every third or fourth day. As a result, the cholera outbreaks were of shorter duration, and cases fewer in these villages than in those using water from wells that had not been treated. E. H. Hankin (British Medical Journal, Jan. 22, '98).

CYSTITIS.

Etiology.—According to the literature of more recent years, the bacterium coli is one of the most common germs found in cystitis. It may enter the bladder by

passing through the urethra, or from the neighborhood through the vesical wall; but it may also enter the blood-vessels and pass out again through the kidneys when the latter are in a morbid state. Thus this bacterium may be a cause of cystitis when predisposing conditions exist. Of 37 cases of cystitis examined, the colon bacillus was found in 13 (12 times solitary); diplococcus ureæ liquefaciens 11 times (9 times solitary); proteus hauser 5 times (3 times solitary), and staphylococcus pyogenes 4 times (3 times solitary). M. Melchior (Ugeskrift for Lager, '97).

DISPLACED AND ADHERENT PREGNANT UTERUS.

Treatment.—The patient, seven months pregnant had a retrodisplaced and adherent uterus for which abdominal section was performed. The consistence of the fundus was about that of a dermoid cyst; the cervix was well up above the symphysis and out of reach. After loosening the fundus the cervix was pushed down and dilated, and the child extracted by the feet. Severe ether bronchitis complicated convalescence, but eventually a good recovery was made. K. Franz (Münchener medicinische Wochenschrift, Jan. 4, '98).

ERYTHEMA CAUSED BY PRIMULA ACAULIS.

Symptoms.—Several obscure cases of erythema in women presented. It began with tickling and pain in the skin; the hands were red on the dorsal surface and between the fingers. In severe cases the skin was considerably swollen and bullæ appeared. On the palpebra the erythema was quite erysipelatous, and ptosis often observed; a lamellous desquamation followed usually.

Etiology.—The cause of the disease

was found to be the *Primula acaulis* (common primrose), to which these women appeared very sensitive; but a gardner who kept several specimens and varieties never suffered therefrom. In all the cases of erythema the primroses were kept in the rooms, and after removal of the plants the eruption disappeared. Actandor (Hospitalstidende, '97).

EXTRAPERITONEAL RUPTURE OF BLADDER.

Treatment.—The case was complicated by fracture of the pubis. The rent in the bladder wall was sutured, and the supravescical space drained through the median incision, and through incision in each inguinal region. The day following the operation the patient was placed in a bath at a temperature of 100° F., and was kept there almost continuous for a period of forty days. The immediate effects of the bath were most pronounced, the condition of the patient, which was serious and attributed to the absorption following urinary extravasation, promptly improved. The ultimate result was most satisfactory, the fragments of the pubis thoroughly uniting and the suprapubic wound entirely closing. He eventually walked without any evidence of disability. This is the third case in which the continuous bath was employed in an injury of this nature, and all evidence that this measure is a prime factor in promoting better drainage, while it at the same time prevents undue absorption. J. F. Mitchell (Johns Hopkins Bulletin, Jan., '98).

EXTRA-UTERINE PREGNANCY.

Diagnosis.—Superficial dullness on percussion over the pubes and in either flank, which on deeper percussion is replaced by a resonant note; a thrill in the

same regions on gently flicking with the finger-nail, though no ordinary sign of fluctuation can be felt; on turning the patient over the dullness in the flank then uppermost persists for some time, but gradually disappears in a way that is never observed in the case of any other fluid than blood in the peritoneal cavity. Mayo Robinson (*British Medical Journal*, Jan. 29, '98).

FRACTURE BETWEEN BASE OF CRANIUM AND BONES OF FACE.

A man, 35 years of age, while intoxicated, fell from a cart loaded with 6000 bricks, and a wheel passed over his head. No coma, no vomiting, moderate bleeding from mouth and nose, but none from ears; no cerebral symptoms that were not due to alcoholism—an attack of delirium tremens immediately followed, from which he recovered. Could not masticate food, as it was impossible to separate the jaws more than one centimetre. Face asymmetrical; the lower maxilla normal; greatly contused about the zygomæ. Mobility forwards and backwards of all the parts below the frontal bone. The fractures were between the base of the cranium and the bones of the face, situated on a line from the root of the nose to the superior lateral course of the orbital margin on both sides, and to the middle of the zygomatic arch. Slomann (*Hospitalstidende*, '96).

FRACTURE.

Treatment.—The plaster of Paris splint or bandage is unscientific, clumsy, and inefficacious. Fixation is best secured by a splint that can be molded directly upon the parts, that can readily be removed and as readily reapplied and readjusted, and, finally, is permeable by the X-ray. Wood fibre

is a material that possesses all the qualifications, and when properly applied fulfills all the requirements. E. A. Tracy (*Boston Medical and Surgical Journal*, Feb. 3, '98).

HÆMOPTYSIS.

In hæmorrhages of this character quiet is of first importance, and this cannot be secured simply through enforced inactivity. What is needed is a calm that will diffuse itself with sure celerity through the nerve-centres and plexuses and restore the co-ordinations that have been lost through the element of fear. This rest is available through the hypodermic use of a decisive dose of atropine, and until this tranquility is secured, all treatment will be experimental. It quiets the tumultuous demeanor of the central organ—the heart—and restores its wonted rhythm. The unstable behavior of the peripheral vessels in the general circulation, as also in the pulmonary area, is replaced by a placidity that is at once restful and restorative. It quickly and surely puts to rest the emotional elements that otherwise might continue indefinitely.

Moreover, the fact that atropine is rapidly diffused and quickly eliminated, adds to its value in these cases. It becomes the duty of the physician to adjust the treatment to the element of fear as well as to the hæmorrhage. If the latter is abundant, the dosage should be large enough to paralyze the peripheral vasomotor nerves, and thereby lessen blood-pressure, causing a general determination of blood to the surface, and thus relieving the vessels from which dangerous hæmorrhages emanate. If the hæmorrhage be small, and the emotional manifestations, as exemplified through the element of fear, be great, the dosage should be proportionate to

the fear-element, and, therefore, must be generous. The dosage that will usually be well borne will be from $\frac{1}{100}$ to $\frac{1}{25}$ grain, repeated after a lapse of four to six hours. English (Pennsylvania Medical Journal, Dec. 5, '97).

HEART-WOUNDS.

Wounds of the heart are almost always rapidly fatal, but two instances were recorded during the past year in which life has been saved. In the first, a man who was under the care of Parozani, of Rome, was stabbed in the left side, and five hours later he was brought to the hospital extremely pallid and with a heart-beat barely perceptible. An operation was performed at once. A flap was marked out comprising the whole thickness of the thoracic wall and containing portions of the fifth, sixth, seventh, and eighth ribs; this was turned inward and the left pleural cavity was found to be filled with blood, and an opening an inch in length was seen in the pericardium—the stab had also penetrated the left ventricle and a finger was passed into the cavity; blood was flowing at each heart-beat from the wounded ventricle. The wound was closed with four stitches, and then the pericardial wound was sutured and the skin incision also. The patient recovered completely. The second case was under the care of Prior, of Woodilee Asylum, Lenzie, Glasgow. A man, aged 43 years, had tried to kill himself previously, and his second attempt was made by pushing an iron pin through the chest-wall a little below and internal to the left nipple; the portion of the pin within the chest measured three inches and the part outside moved up and down every time the heart beat. The pin was withdrawn and no ill effects followed, the wound

healing by first intention. Lewis (Medical Review of Reviews, Jan. 25, '98).

KYPHOSIS (JUVENILE).

Etiology.—Local morbid conditions often are the cause of abnormal position of the vertebral column. In the superior vertebræ are often found anomalies induced by rheumatic disease of muscles; and the most common anomaly consists in the cervical vertebræ being curved with their concavity backward, and the head also bending backwards, the chin then being protruded. Lateral curves or rotation of the column are often observed. The face can be asymmetrical; the shoulders depressed and carried forwards. In such cases rheumatic attacks were observed in the cervical and occipital muscles, and a careful examination revealed in all cases rheumatic deposits in these muscles, most commonly in the trapezius and splenius.

Treatment.—This consists chiefly of methodical exercises and massage. Lorenzin (Ugeskrift for Lager, '96).

LARYNX, CARCINOMA OF.

Diagnosis.—A prime necessity is an early diagnosis, and the presence of a unilateral growth in a person beyond middle age, associated with hoarseness or slight huskiness, is ground for suspicion; but suspicion must be confirmed by microscopical examination of the diseased tissue.

Treatment. Conservative methods often afford satisfactory results. Laryngectomy is unnecessary in all cases, and should not be resorted to unless absolutely imperative, for it is followed by a higher mortality and destroys the lumen of the respiratory canal. J. P. Clark and F. B. Harring-

ton (Boston Medical and Surgical Journal, Feb. 3, '98).

NEPHROPTOSIS (MOVABLE KIDNEY).

Treatment.—Mechano-therapy will afford equally as good results as operative procedures if carefully applied. Five cases treated by application of abdominal pad and belt, massage, and exercises, with relief of all the symptoms. In 16 cases, where the rest cure simply was employed, 8 were more or less permanently improved, 7 unimproved, and 1 disappeared. The permanence of absence of symptoms depends chiefly upon the extent to which the body-weight is maintained. Symons Eccles (Lancet, Jan. 9, '98).

NIGHT-SWEATS OF PHTHISIS.

Treatment.—This is readily controlled by giving a hypodermic injection of $\frac{1}{80}$ grain of atropine sulphate at bed-time. It is not even necessary to give it every night, for after three or four nights it may be suspended, and, in all probability, it will not be necessary to revert to it for a week or more. This is the best treatment for this distressing symptom, with, perhaps, the exception of picrotoxine, in doses of $\frac{1}{60}$ grain at bed-time, which rarely fails. William Murrell, London (Medical Brief, Jan. '98).

OPERATIVE PERITONITIS.

Treatment.—I completely disapprove of large dressings after cœliotomy, on the ground that one is unable to keep under constant observation the condition of the wound. All that is needed is to simply cover the wound with an antiseptic paste, which offers ample protection. With the first evidences of perito-

nitis, if there are no evidences of speedy abatement under ordinary measures, the abdominal wound should be opened throughout its entire length and permitted to remain so. Strips of sterilized gauze are now inserted, and enough placed over the wound to entirely cover it. This method, in my hands, has been attended with marked success, not only following cœliotomies, but in puerperal cases. By opening the wound throughout, intra-abdominal pressure is decreased, peristaltic movements limited, and free drainage provided. H. von Erlach (Wiener Klinische Wochenschrift, Jan. 20. '98).

PUERPERAL SEPTICÆMIA.

Treatment.—The strength must be supported by food and stimulants, meat-juices, meat-extracts, and whisky or other liquor of good quality in the form of eggnog. Marmorek's anti-streptococcic serum may be tried in suitable cases in doses of from 5 to 40 cubic centimetres. Treatment with nuclein is less promising. Hypodermoclysis of normal salt solution is probably effective in eliminating ptomaines by rapid excretion through the kidneys. King (National Medical Review, Jan., '98).

RHEUMATOID ARTHRITIS.

Treatment.—Inasmuch as I hold this malady to be of bacterial origin, I employ such drugs as exhibit powers of elimination. So far, I have found creosotal, benzosal and guaiacol-carbonate most useful, the latter being the most agreeable of the group. Give guaiacol-carbonate in doses of from 5 to 15 grains, beginning with the smaller and rapidly increasing. These doubtless act by combining with the bacterial toxins to be eliminated as guaiacol-sul-

phate. Externally also apply guaiacol dissolved in olive oil. This method often induces even in severe cases. rapid subsidence of symptoms with relief of pain and ultimate restoration to health. G. A. Bannatyne (Edinburgh Medical Journal, Jan., '98).

SYPHILIS.

Treatment (abortive).—This consists either in excision of the induration or the common treatment applied as early and as energetically as possible. The first method was employed in thirteen cases with no effect in twelve. The successful case was that of an ulceration of the prepuce presented to me a month after the last act of cohabitation. A month subsequent to this visit to me there was no doubt as to the syphilitic infection, and excision was performed. Signs of constitutional syphilis never presented, until some years after, and then undoubtedly as the result of new infection. Pontoppidan (Ugeskrift for Lager, '97).

TORTICOLLIS.

Treatment.—This distressing condition may often be alleviated by the administration of conium in large doses, —60 drops of the fluid extract in the course of twenty-four hours,—and hypodermics of atropine. The galvanic current applied to the side of the neck oftentimes gives relief, particularly if there is much pain. Massage is also of service. J. Collins (Medical Record, Feb. 12, '98).

TOXÆMIA.

Treatment.—Theoretically and practically, the principles of osmosis offer the best results, being founded on the fact that toxins are dialyzable; the anti-toxins not being so, remain in the cir-

culatation undisturbed. The procedure is a simple one: The blood is diluted by intravenous injections of a decinormal salt solution and the rectum filled with a saturated solution of magnesium sulphate; thus are furnished the conditions necessary for dialysis,—viz., two fluids of different degrees of concentration on either side of an animal membrane (the rectal wall). I treated two cases on this principle; one of purulent peritonitis, the other of puerperal septicæmia. In both a pronounced chill with hyperpyrexia, followed by a sudden drop of the temperature to normal, with marked amelioration of the general condition, was the immediate sequence of each injection. This treatment should be available in all conditions due to the presence of a poison circulating in the blood, which is capable of being dialyzed. W. McKeown (Canadian Practitioner, Jan., '98).

UTERINE FIBROID.

Treatment.—The legitimate surgical procedures that may be utilized are: Curettage; division of the uterine arteries; myomectomy, both vaginal and abdominal, and hysterectomy. Myomectomy is the preferable operation in all cases in which it is possible and does not involve too great risks; and it is applicable to three-fourths of the cases in which hysterectomy is performed. A. H. Goelet (American Journal of Obstetrics, Jan. 18, '98).

UTERINE DISEASE.

Etiology.—Deficient excretion from the kidneys, though these may not be organically diseased, is responsible for the production and continuation of many uterine disorders. By insisting upon a diuretic treatment of some skin affections marked improvement of asso-

ciated pelvic disorders were noticed. L. D. Bulkley (Journal of the American Medical Association, Jan. 8, '98).

Treatment.—Mechanical intra-uterine treatment is indicated in chlorotic girls with hypoplasia of the internal genitalia and tapiroid cervix with amenorrhœa or dysmenorrhœa and nervous pains. The most satisfactory measures are electricity either to the uterine neck or by means of the intra-uterine pessary and sounds. E. M. Simons (Deutsche medicinische Wochenschrift, Dec. 23, '97).

WOUNDS.

Sequelæ.—Death of *fœtus in utero* from gunshot wound; recovery of the mother. Bullet wound, made by a fair-sized ball, a little to the right of the umbilicus and slightly below. Labor set in, and went on slowly until, the woman being fairly exhausted and the pains weak, the os being sufficiently dilated, she was delivered by long forceps. Post-partum hæmorrhage was very sharp. The hand was next passed into the uterus; an opening in the anterior wall

could be distinctly felt, with a part of the membranes prolapsed and held tight in the same. No attempt was made to loosen this, but the membranes were torn off close to the uterine walls, and the hand withdrawn with placenta, which was loose in the cavity. The uterus was washed out with a hot, antiseptic solution (creolin) and ergot was given. The child was at almost full term; the ball had entered the right shoulder by the junction of the acromion process with the scapula, and had come out in the left iliac region. The ball found in the *débris*. Samuel W. Robinson (Lancet, Oct. 23, '97).

Treatment.—Case of complete section of the ureter some inches above the bladder. A slit was made in the lower portion of the organ; the upper portion was then invaginated in the slit by means of two traction-sutures. The incision was then sutured and a few additional sutures introduced around the circumference of the free end. Uneventful recovery. R. Winslow (Annals of Surgery, Jan., '98).

Book Reviews.

REFERENCE-BOOK OF PRACTICAL THERAPEUTICS, BY VARIOUS AUTHORS. Edited by Frank P. Foster, M.D., Editor of the New York Medical Journal and of Foster's Encyclopædic Medical Dictionary. Two volumes, Royal Octavo. New York: D. Appleton & Company, 1897.

This work of nearly 1300 pages has been prepared especially for the general practitioner of medicine. It is not intended as an exhaustive treatise on *materia medica* or on pharmacy, and does not pretend to take the place of such. The practical use of drugs and the management of poisoning due to them allows the editor and his staff of thirty-five distinguished contributors to condense much that is interesting rather than essential to the general practitioner, and omit more that properly belongs to a treatise, thus serving up to its readers the "baked meats" and leaving out the "dry bones."

In subject-matter the work is "up to date." In addition to the articles on drugs proper, we notice many excellent ones on general subjects: "Climatic, Dietetic, and Electrical Treatment"; "Baths," "Hydrotherapeutics," "Mineral Springs and Waters," "Thalassotherapy," "Massage," "Exercise," "Rest-cure,"

"Animal Extracts," "Serum-therapy," "Transfusion and Infusion," and "Hypnotism." The articles on "Milk and Milk Adulteration" are especially good. The x-rays are given due consideration.

The usefulness of a reference-book depends on the fullness of its index. In this work we have 86 pages of general index, 69 pages of Index to Diseases and Remedies, and in addition an index of Authors. In our opinion, this work is a valuable addition to any medical library; it should be in the hands of all who wish to keep in touch with therapeutic progress.

C. S. W.

New Books Received.

The editor begs to acknowledge, with thanks, the receipt of the following books:—

Transactions of the Congress of American Physicians and Surgeons, 1897. —Elements of Latin, for Students of Medicine and Pharmacy. By Crothers and Bice. The F. A. Davis Company, 1898. —Outlines of Rural Hygiene. By Harvey B. Bashore, M.D. The F. A. Davis Company, 1897. —A Modern Pathological and Therapeutical Study of Rheumatism, Gout, Rheumatoid Arthritis, and Allied Affections. By E. L. Gros, M.D., 1897. —Agenda Therapeutics. By Dr. Heinrich Paschkis, 1898.

Monographs Received.

The editor desires to acknowledge, with thanks, the receipt of the following monographs, etc.:—

The Use of Electrolysis and the Galvano-cautery in the Treatment of Diseases of the Nose and Throat. By Philipp Fischelis, M.D., Philadelphia, 1897. —Notes on Household Disinfection by Formaldehyde. By Wyatt Johnston, Quebec, 1897. —On the Hæmatozoan Infections of Birds. By W. G. MacCallum, M.D., Baltimore, 1897. —Examination of the Urine as a Means of Diagnosis. By T. W. Schaefer, M.D., Kansas City, Mo., 1897. —Some Remarks Upon the Uric-acid Diathesis and Its Treatment. By C. F. Craig, Danbury, Conn., 1897. —A Note on Two New Creosote Compounds: Creosote Valerianate and Guaiacol Valerianate. By Frank Woodbury, M.D., Philadelphia, 1897. —Difficulties of Determining the Causes of Coma. By J. T. Eskridge, M.D., Denver, Col., 1897. —Successful Removal of an Enormous Mesenteric Tumor and nearly Eight Feet of Intestine. By F. J. Shepherd, M.D., C.M., Montreal, 1897. —Primary Lupus of the Larynx. By Emil Mayer, M.D., New York City, 1898. —The President's Address, Delivered Before the American Laryngological Association at its Nineteenth Annual Congress. By Charles H. Knight, M.D., 1897. —Exostosis of the Septum as a Cause of Chronic Naso-pharyngitis. By C. H. Knight, M.D., New York, 1897. —The Prevention of Infectious Diseases. By J. M. G. Carter, M.D., Waukegan, Ills., 1896. —Poultices in Pulmonary Diseases of Children. By J. M. G. Carter, M.D., 1897. —Alcoholism as a Disease. By G. H. McMichael, M.D., Buffalo, 1897. —Surgical Mélange. By Merrill Ricketts, Ph.B., M.D., Cincinnati. —Abdominal Incision for Ascites. By B. Merrill Ricketts, Ph.B., M.D., Cincinnati, 1897. —Cranietomies—With Report of Four Cases. By Merrill Ricketts, Ph.B., M.D., Cincinnati, 1897.

THE MONTHLY CYCLOPÆDIA OF PRACTICAL MEDICINE.

Vol. XII.
Old Series.

PHILADELPHIA, MARCH, 1898.

Vol. I. No. 3.
New Series.

TABLE OF CONTENTS.

	PAGE		PAGE		PAGE
ABDOMINAL SURGERY.....	81	DIGITALIS: ITS USE AND ABUSE (EDITORIAL). Stockwell.....	101	OCCLUSION OF POSTERIOR NARES (COMPLETE). Clark.....	117
Exploration and Operation. Hall, Coe.....	81	DILATATION OF STOMACH.....	110	OCULAR NEURALGIA.....	89
Sutures. Réclus, Mantou.....	82	Diagnosis. W. H. Broadbent.....	110	Treatment. Markoff.....	89
ACUTE OTITIS.....	108	DYSTOCIA (UNUSUAL). McLean.....	111	OTOMYASTHENIA.....	117
Etiology. F. P. Hoover.....	108	BOHNOCCOCUS OF BOTH LUNGS.....	111	Diagnosis. Rumbold.....	117
ADENOIDS, POST-NASAL.....	108	Steiner.....	111	PERNIOUS ANEMIA.....	89
Diagnosis. Elliot.....	108	SCALPITIA.....	111	Autopsy. Coleman.....	89
Treatment. Elliot.....	108	Pathology. Prutz.....	111	Symptoms. Coleman.....	89
ANGINA PECTORIS.....	108	REBALMING CRUSHED MEMBERS. Jour. des Seien. Méd. de Lille.....	112	Treatment. Coleman.....	89
Diagnosis. Tecco.....	108	EMPHYSEMA OF FRONTAL SINUS.....	112	PIORIC-ACID POISONING. Walcher.....	117
Pathology. Tecco.....	108	Treatment. Bryan.....	112	PLAGUE.....	117
ANTITOXIN POISONING. Morse.....	108	EPILEPSY.....	112	Characteristics. Arnold.....	117
APOPLEXY.....	82	Pathology. Cabbito.....	112	Infection. Arnold.....	118
Treatment. Grasset.....	82	Treatment. Cabbito, Takoutief.....	113	PNEUMONIA.....	90
ARTERIO-SCLEROSIS AND EPILEPSY. Allen.....	108	FAT-NECROSIS.....	113	Pathology. J. W. Moore, Peter, Levy, Ribbert, Finkler, Dürok, Andrew H. Smith, Constanto Zenoni, Osler, Royal Amidon.....	92
ASCARIS LUMBRICOIDES.....	83	Etiology. Simmonds.....	113	Prognosis. Osler, Weismayer.....	94
Diagnosis. Fuente.....	83	FRACTURE OF TRACHEA. Park.....	113	Symptoms. W. H. Thomson, Henry L. Elsner.....	90
BRONCHITIS, ACUTE.....	83	GANGLION.....	114	Treatment. W. H. Thomson, Arthur Foxwell, Huchard, Gingeot and Deguy, Rubel, Elmer Lee, Baruch, Klein, H. M. Fisher, Royal Amidon, Solberg, Andrew H. Smith.....	94
Treatment. Duncan, Duke, Char- bonneau.....	83	Treatment. Lacourt.....	114	PROSTATIC ENLARGEMENT.....	118
BRONCHITIS, ACUTE, IN CHILDREN. Barnett, Charbonneau.....	84	GASTRIC ULCER.....	114	Treatment. Stretton.....	118
BRONCHITIS, CHRONIC.....	85	Treatment. Von Leuba.....	114	QUININE IN MALARIA. Van Marter.....	118
Treatment. Lyon, Sanger, Dumas, Arthur Davies, Carrière.....	85	HÆMORRHOIDS.....	114	SCROTAL PRURITUS.....	118
BURNS.....	86	Operative Treatment. Alexander.....	114	Treatment. Brocq.....	118
Pathology. Techmarko, Susuki, Sajou.....	86	HÆMORRHOIDS.....	114	SEWER-GAS AND BACILLI. Shattuck.....	119
Treatment. Miles, Blanchard.....	86	HYPNOTICS.....	115	STAMMERING.....	96
CARCINOMA OF LIP.....	109	Comparisons. Wilcox.....	115	Etiology. Holger Mygind, Makuen.....	96
Operation. J. C. Warren.....	109	INFLUENZA.....	115	SUPPURATIVE OTITIS.....	119
CARDIAC SARCOMA (PRIMARY).....	109	Treatment. Frudenthal.....	115	Treatment. Lacroix.....	119
Post-mortem. Lambert.....	109	KIDNEY RESECTION. Bloch.....	115	TÆNIA.....	98
CHANCER, EXTRAGENITAL.....	109	LARYNGEAL OCCLUSION (SPAS- MODIC).....	116	Treatment. Carrato, Watson, Sass.....	98
Etiology. Gagsow, Burwinkel.....	109	Etiology. Stillson.....	116	TYPHOID FEVER.....	98
CHORRA.....	109	LEAD POISONING.....	88	Dietetics. A. G. Barra, Frederick Shattuck, William Ewart, Ussery.....	98
Pathology. Techmarko, Susuki, Sajou.....	109	Pathology. Erb.....	88	ULCER OF THE STOMACH AND CLI- MATE. Hatch.....	119
Etiology. Legay.....	109	Symptoms. Hobbs, Hobhouse.....	88	NEW BOOKS RECEIVED.....	120
CONVULSIONS, INFANTILE.....	109	Treatment. Hobbs.....	89	MONOGRAPHS RECEIVED.....	120
Etiology. Sanger.....	109	MENIERE'S DISEASE.....	116		
DIABETES.....	87	Etiology. Brown and Daland.....	116		
Treatment. Pietro Lupo, Estay.....	87	Treatment. Brown and Daland.....	116		
		NASAL FRACTURES. Carel.....	117		

Cyclopædia of the Year's literature.

ABDOMINAL SURGERY.

Exploration and Operation. — Hall¹ praises the vaginal route, because: there is little danger to life, little or no suffering, rapid recovery, and no raw sur-

faces left in the abdominal cavity to cause adhesions.

Coe² considers the direct method pref-

¹ Kansas City Medical Index, April, '97.

² N. Y. Polichnic, May, '97.

erable under the following conditions: When there are neoplasms or obscure enlargements situate within the abdominal cavity that have risen above the pelvic brim. In disease of the adnexa in which the latter are situated near or above the pelvic brim, as established by bimanual palpation. When history and symptoms point to general intestinal adhesions, and, above all, when appendiceal complications are suspected. In ectopic generation before rupture, when the sac is high up, at the side, or in front of the uterus, instead of in Douglas's pouch. When there is tractable pelvic and abdominal pain of obscure origin, including the so-called neuroses.

Sutures.—Réclus¹ holds that catgut is superior to silk, especially when a total hysterectomy is performed by the vaginal route and the sutures left hanging in the vaginal vault. Silk remains indefinitely and is very likely, in spite of all precautions in preparation, to become infected. A woman underwent hysterectomy, and fifteen months thereafter was still suffering from suppuration due to a silk thread.

Manton² especially commends the kangaroo-tendon suture, which he has never known to give way. For closing the abdomen the buried animal suture (kangaroo-tendon) as introduced by Marcy, is superior to all other procedures; he has never tried catgut, however, having been early prejudiced against it.

APOPLEXY.

Treatment.—Grasset³ believes that revulsion in all its forms should be employed to combat congestion. Leeches may be applied behind ears or to anus; venesection is not called for unless there

APOPLEXY. TREATMENT.

is internal circulatory erethism, accompanied by general turgesence and a vibrating pulse.

Purgatives are valuable, such as 8 to 16 grains of calomel in capsules, given in milk; or a teaspoonful every fifteen minutes of the following:—

℞ Croton-oil, 1 minim.

Castor-oil, 7 $\frac{1}{2}$ drachms.

Sweet almond-oil, 7 $\frac{1}{2}$ drachms.

Syrup of lemon, 14 drachms.—M.

If, however, there is difficulty in swallowing or inability to swallow, enemata of glycerin, and from 225 to 450 grains of sodium sulphate dissolved in a decoction of 150 grains of senna, should be employed.

Cutaneous revulsives are also available, such as mustard sinapisms, aseptic compresses soaked in hot, formic-acid solution, etc.; actual blisters should be employed with great caution, preference being given to ammonia or chloral. Again, applications—not too cold and not suddenly interrupted—may be applied to the forehead or vertex. Often in apoplexy stimulation and sustenance are demanded, in which case the following may be employed:—

℞ Acetate of ammonia, 75 grains.

Tincture of canella, 45 minims.

Syrup of orange-flower, 7 $\frac{1}{2}$ drachms.

Linden-water, 4 ounces.

Alternate with

℞ Caffeine, 30 grains.

Benzoate of soda, 30 grains.

Simple julep, 4 ounces.

If unable to swallow and the indications are urgent, from 15 to 75 or even 150 minims of ether may be given subcutaneously, in divided doses, during the

¹ British Med. Jour., vi, '97.

² Med. Age, May 25, '97.

³ La Médecine Moderne, Jan. 1, '98.

twenty-four hours, or from 30 to 60 minims of a mixture of equal parts of camphor and olive-oil, or, if preferred, of the following:—

R Caffeine, 38 grains.
Benzoate of soda, 38 grains.
Boiled water, 150 minims.

The patient should not be allowed to receive visitors or friends; the fewer number of attendants also, the better; and his room must be kept thoroughly aired. Great cleanliness is essential; also the production of eschars carefully looked for. The bladder should be watched and emptied as often as necessary, invoking the aid of the catheter if required.

For diet, milk and bouillon if patient is able to swallow; decoction of cinchona, kola, and, if needed, from 1 1/2 to 2 ounces of spirits or cordial.

ASCARIS LUMBRICOIDES.

Diagnosis.—The general practitioner, as a rule, writes Fuente,¹ attempts to make a diagnosis without microscopical examination of fæces.

The first symptom, generally, is sudden acute abdominal pains, and the history then shows that slight pains have been experienced before, but, being transient, were not complained of; or the fact may be elicited, if dealing with an infant, that it has lately been restless, crying a great deal, refusing nourishment, etc., which condition, however, passed off within a few hours or a day. These pains are characterized by difficulty experienced in determining exact localization, and it is not rare to find a more or less tender point on pressure over the region designated. Very young children, who permit palpation of the whole abdomen without resistance, suddenly start and cry when a certain point

is touched, and this is repeated each time this portion is reached.

The differential diagnosis between inflammatory processes is established by the absence of high fever. A slight rise of temperature may occur toward evening, but, during the day, the patients present a perfectly normal temperature. In exceptionally-bad cases the pain is so great that older children moan and cry out. Movements of the bowels are always present; either there is a diarrhoea or quite as frequently the passages are perfectly normal, this being a valuable diagnostic sign. Convulsions have been observed, due to presence of ascarides. The sudden, nearly epidemic appearance, at times, of ascarides in certain localities present a peculiar phenomenon.

Exceedingly remarkable is the enormous contraction of the field of vision in cases where intestinal parasites are present. In some cases this may be demonstrated by a very superficial examination.

BRONCHITIS, ACUTE.

Treatment.—Apomorphine, freshly compounded in acidulated mixture, is the best of all relaxing expectorants. In 1/30-grain doses, at two or three hours' intervals, it rarely fails to cause a free sero-mucous flow in from twelve to thirty-six hours. Rest is an essential adjuvant. Codeine sulphate in 1/5-grain doses, given independently, is the best sedative.

Apomorphine, as above suggested, rarely causes nausea; in fact it seems rather to aid digestion and increase appetite for a limited period; it is also slightly laxative. It can be given for many days in doses gradually decreasing as the expectoration becomes more

¹ Munch. med. Woch., No. 64, '97.

free. It should be administered as long as improvement is decided. Only in debilitated subjects, or where there is a broncho-pneumonia, is it necessary to supplement this treatment with stimulating expectorants, and, of these, carbonate of ammonia is the best.

The skill in the management is to arrest the inflammation, says Duncan. Belladonna has arrested many cases at the larynx, aconite in the trachea, while bryonia is a fine "short-stop" at the bifurcation of the bronchi.

Alexander Duke¹ has more than once seen so-called bronchitis treated by having the air of the patient's bedroom charged with moist vapor without the smallest benefit; the cause was really heart disease. In a number of cases where the inhalation of steam is recommended, dry, heated air would be far more efficacious, especially for those suffering from profuse expectoration and advanced in life. Here the real value of belladonna is due to its drying action in checking the profuse secretion, which is such a source of misery and danger to the aged. In the dry stage, all admit the value of moist inhalations accompanied by warm drinks and soothing expectorants; but in the chronic stages, where the expectoration is profuse and viscid, an occasional emetic has an excellent effect, and turpentine-punch (made with 15 or 20 minims dropped on a lump of white sugar and dissolved in a glass of hot whisky and water) has been the means of saving a life. The dorsal decubitus cannot be too strongly condemned, the viscid secretion being far more likely to accumulate in the bronchial tubes by gravitation alone. The tar preparations are excellent if persevered in, combined, of course, with tonic and strengthening treatment.

The hot, dry chamber of the Turkish bath has been the means of aborting attacks of bronchitis, and deserves a trial, the patient driving in a close vehicle to and from the bath, and with mouth and nose protected with woollen comforter. The indiscriminate recommendation of the bronchitis-kettle is an error; it has contributed to the deaths of not a few.

Charbonneau² puts his patients to bed, and at once applies a good-sized mustard plaster, ordering, also, citrate of potash in tablespoonful doses every three hours. Should the cough be troublesome or paroxysmal, codeine, in $\frac{1}{8}$ - to $\frac{1}{4}$ - grain doses, with 5 grains of muriate of ammonia; milk diet; bowels to be kept free. He insists that a full dose of Dover's powder will frequently abort an attack.

BRONCHITIS, ACUTE, IN CHILDREN.

Barnett³ suggests that children be in the open air as much as possible when the weather is suitable. Clothing should be changed to suit the weather; the feet always warm and dry; the sleeping apartment well ventilated; and a cool bath each morning.

In bronchitis in children the inflammation is apt to spread from the larger to the smaller.

Give calomel until the bowels act; apply camphorated oil over chest, then a layer of cotton batting; keep feet warm. After the bowels have acted give fluid extract of *asclepias tuberosa*, ammonium chloride, and syrup of licorice every hour until the patient is sweating freely and the bronchial secretion is loose; then every three or four hours

¹ Med. Press and Circular, Feb. 8, '97.

² La Médecine Moderne, Aug., '97.

³ Alkaloidal Clinic, Nov., '97.

as necessary. During convalescence use codliver-oil by inunction.

Charbonneau¹ would confine to a large, well-ventilated room maintained at a temperature of 70° F. and cause thorax to be enveloped in a cotton jacket; also rub into groin and axillæ, morning and evening, an ointment composed of from 20 to 30 grains of quinine; chloroform, q. s.; and lanolin, to make 1 ounce. Every two or three hours a teaspoonful of the following:—

- ℞ Tinct. aconite, 8 to 20 minims.
- Tinct. veratrum viride, 4 to 10 minims.
- Tinct. nux vomica, 8 to 16 minims.
- Simple syrup, 4 drachms.
- Water, to make 2 ounces.

The diet should be chiefly of milk, but give all the water desired.

BRONCHITIS, CHRONIC.

Treatment.—Lyon² believes the most effective agents are those which, after absorption, are eliminated by the respiratory passages. These consist, in greater part, of balsams, of plants containing essential oils, sulphur and its compounds, and the iodides. Of the first class, in particular are tar, balsam of Tolu, benzoin, turpentine and terpene, eucalyptol, and creasote. The inconvenience attending all is that they are usually employed by inhalation and exercise an irritant influence upon the stomach; copaiba is also very efficacious, though rarely employed. Turpentine and terpene are usually prescribed in capsules; creasote aids in getting rid of the secretion and also is inimical to tubercular bacilli; eucalyptol is also prescribed in capsules, and less likely to disturb the stomach and kidneys than turpentine; sulphur tends to congest bronchial mucous membrane; hence is only available dur-

ing the period of decline of the bronchitis, when the secretion resists the action of the balsams. When there is emphysema, particularly if arteriosclerosis is present, the iodides are available, and not only liquefy the secretion, but aid in their expectoration; but they present, however, the inconveniences that ever pertain to iodic salts, and must, therefore, be given with caution.

When pulmonary congestion is marked, minute doses of ipecac and ergotone, separately or in combination (to which terpene may be added if desired), are often useful; but, as a rule, ergotone alone acts best, given in a suppository. If the lung is exceedingly full of mucus, it may be necessary to induce emesis, and for this purpose, if the patient is strong and vigorous, tartar emetic in minute doses answers well. For cough, opium, belladonna, aconite, and cherry-laurel water. When there is bronchorrhœa, full doses of ergot, henbane, or arsenic; and, for tracheitis, inhalations of menthol-vapor.

Saenger³ prescribes golden seal; 20, 25, or 30 minims of the fluid extract four times a day, increasing the amount if it does not produce the desired results. He finds it particularly efficacious, as it mitigates the cough greatly, facilitates expectoration, and renders a muco-purulent sputum simply mucous; further, it decidedly diminishes the physical signs. Hydrastinine is not as efficacious as the fluid extract.

Dumas⁴ employs from 30 to 60 drachms of sodium hyposulphite three or four times daily, and finds it not only efficacious, but also most readily elimi-

¹ St. Louis Med. and Surg. Jour., Aug. '97.

² Revue de Therap. Médico-Chirurg., Jan. 15, '97; Therapeutic Gaz., May 15, '97.

³ Centralblatt für Innere Medizin, May 1, '97.

⁴ Revue de Thérap., March 15, '97.

nated, partly by the urine and partly by the lungs.

Arthur Davies¹ emphasizes the value of spray of wine of ipecac, $\frac{1}{2}$ to 1 drachm being used at each sitting, the patient being directed not to swallow the drug that accumulates in the mouth and throat. The class of cases most amenable are those seen early in the disease suffering from considerable dyspnoea and tenacious sputum; when dyspnoea is moderate, tar is often useful, or terebene. Potassium-iodide spray often gives encouraging results, and dyspnoea can often be relieved by the internal administration of nitroglycerin. When foetid bronchitis and bronchiectasis are present, inhalations of creasote are very valuable.

G. Carrière² treated a case of streptococcic chronic bronchitis with great benefit by antistreptococcic serum. There was fever, with profuse sweats and abundant expectoration in the morning; and also the general signs of bronchitis with emphysema, together with some evidence of a cavity at the left apex. After an injection of 10 cubic centimetres of antistreptococcic serum, the temperature first rose, but soon fell to normal, and improvement set in. A fortnight later the expectoration had greatly diminished in amount, not exceeding five or six ounces, and was more mucous and less purulent. Three weeks after a second injection the patient was greatly improved; cough was slight, and expectoration only one to two ounces; the cavity-signs had disappeared. In a month he was quite well.

BURNS.

Pathology.—Of the theories that have been held as to the cause of death following burns, Tschmarko,³ after close

study of the subject, agrees with Sonnenburg that fatality is probably due to reflex lowering of vascular tone with consequent cardiac paralysis; but parenchymatous changes and degenerations in kidneys, lungs, brain, etc., must also be taken into account. In one instance numerous streptococci were found in the blood after death, which fact evidences that this class of injuries should be treated with strict regard for antiseptics.

The fact that superficial burns covering extensive areas almost always prove fatal is vividly shown in a paper recently published by Susuki, of the Imperial Japanese Navy.⁴ Of the 298 killed or injured on the Japanese side during the Battle of Yalu, a large number had received burns covering an area of more than one-third of the body. Only 2 out of 57 cases of this class recovered.

Of twenty-six cases seen by Sajous after a boiler explosion on the Lake of Geneva, in 1892, twenty-two died within a few hours after the accident, although, with few exceptions, the scalds, though involving the greater part of the body, did not reach beyond the epidermic layer, excepting over the face and hands.

Treatment.—The pain is promptly relieved by a saturated solution of picric acid. This agent is antiseptic; it prevents suppuration and favors cicatrization; and, if applied at once after the accident, it may prevent the formation of blisters. It may be applied with antiseptic gauze to the burnt surface.

Miles⁵ applied picric acid in 100 cases of burns, in the following form:—

R Picric acid, 90 grains.

Absolute alcohol, 3 ounces.

Water, 37 ounces.—M.

¹ Brit. Med. Jour., vol. 1, '97.

² Presse Médicale, June 5, '97.

³ Centralb. f. Chir., July 10, '97.

⁴ Sei-I-Kwai, Dec., '97.

⁵ British Med. Jour., July 17, '97.

Applied by means of cotton-wool and a many-tailed bandage. The subsequent dressing was guided by the discharges, temperature, etc., and the same materials used, with the precaution of never attempting to remove any adhering lint; chloroform also was used during dressing, especially when the patients were children. In many cases it was found advantageous to dress twice a week.

This method offers simplicity, painlessness, asepsis, small amount of discharge, infrequent dressing, astringent action in preventing inflammation, property of promoting growth of epithelium, rapid separation of sloughs, absence of poisoning symptoms, and economy of material. Its disadvantages are staining of hands and bed-clothes; but the former may be in part—and often wholly—obviated by smearing the hands with vaselin before, and washing with alcohol after, dressing. This mode of treatment should be suspended when inflammation has subsided and granulations formed.

Blanchard¹ found bovine valuable in the treatment of ulceration following severe burns. In one case, twenty-five days after the accident the wounds were all healed except one on the calf—an ulcer eight inches long by four inches wide—and one on the ankle,—a strip two inches wide, running nearly around the leg; both had a very unhealthy appearance, with deep, cut edges. The ulcers were thoroughly cleaned with carbolic solution; then plain, aseptic gauze was saturated with bovine and applied to the ulcers; this was covered with a layer of gutta-percha tissue, the whole being then covered with wadding. The following morning there was no pus, and healthy, pink granulations were springing up over the ulcers. The dressing

being changed every twenty-four hours, a rapid improvement occurred, the new skin extending from the edges. Twelve days later the ulcers were entirely healed. Before using bovine the ulcers were very painful, but after applying the blood-dressing there was immediate relief, and the patient experienced no more pain.

DIABETES.

Treatment.—Pietro Lupo² is an advocate of an exclusive vegetable diet, and recently reported two cases as recovered under such management.

The first was a female, and there was no longer any sugar in her urine after the tenth day of continued vegetable diet.

The second was a male who had been suffering for a year from digestive disturbances, malaise, fatigue, pain in limbs, and bronchial catarrh. He passed abundant urine, had various visual disturbances, and grew so thin as to seem a skeleton; analysis of urine showed a large percentage of sugar and also albumin. He was put on an exclusively meat diet, and in twenty days the sugar disappeared from the urine, but the other symptoms, which were torturing him so much, did not yield. He resumed the mixed diet, giving preference to meat, and the sugar reappeared, soon amounting to the former proportion, and the symptoms increased in intensity; his strength was so diminished that he could not rise from bed; he digested very poorly and suffered a general malaise; the visual disturbances were increased to such a degree that at times he was blind for some minutes; on the anterior

¹ N. Y. Med. Jour., Aug. 7, '97.

² Giornale Internat. d. Scien. Med.; Canadian Pract., Feb., '98.

surface of both tibial regions gangrene of the skin set in. He was next put on an exclusively vegetable regimen, when, after eighteen days, he could leave his bed and even walk about; there was now complete absence of both sugar and albumin. Soon, and gradually, all the other symptoms disappeared, the gastric condition being the first to improve.

For two years Lupo has been persuaded that uric-acid diathesis, diabetes, oxaluria, etc., are but different phases of one single morbid entity, and, since he could not discover a single case truly cured who held to a meat diet, he decided to try the other extreme and test the effect of an exclusive vegetable dietary, at the same time prohibiting all wine, beer, and spirits. The results in these two cases, as well as many others, have been of most gratifying character. In this dietary nothing of a vegetable nature is excluded, whether cooked or raw, not even edible soups, peas, beans, and grapes or other saccharine fruits. In the second case, after two months of vegetable diet, analysis of urine showed many crystals of oxalate of lime—from sixty to seventy for each field under the microscope. Finally this, too, wholly disappeared from the renal secretion.

Estay¹ treated two cases of diabetes successfully with methylene-blue. A man, 53 years old, who was passing 2500 cubic centimetres of urine per day, which contained 60 grammes of sugar per litre, was given 0.5 gramme of methylene-blue per day. The sugar diminished one-third after eight days' treatment, and had nearly disappeared four weeks later; thirst had much diminished, and 1500 cubic centimetres of urine were passed. A second case was equally satisfactory: The glucose fell from 30 grammes to 5 grammes per litre

under administration of 0.1 gramme of methylene-blue four times per day.

LEAD POISONING.

Symptoms.—Hobbs² analyzes a number of cases of plumbism. Forty-two were mild; 8 severe and chronic; 4 nervous, of which 2 presented epilepsy followed by wrist-drop, 1 with wrist-drop and profound muscular atrophy, and 1 with acute meningitis. The duration of exposure varied, in the mild forms, from a fortnight to twelve months, and, in the severe cases, from two to fourteen years.

Hobhouse³ chronicles a peculiar case, the poisoning having arisen from the use of a strong solution of acetate of lead for irrigation of the nasal cavities. The muscles of the upper arm were almost completely paralyzed, but they did not exhibit as marked reaction of degeneration as the extensors of the hand. The paralysis appeared in the muscles in the order of the Duchenne-Erb type of muscular atrophy.

Pathology.—Erb⁴ observed nearly the same phenomena as noted by Hobhouse. It is difficult to determine what is the pathology of a condition in which the muscles perform their appropriate functions fairly well, yet refuse to react to faradism, though, as Gowers has noted, voluntary power may return before faradic irritability, which leads to the belief that they cannot be absolutely correlated.

In Hobhouse's case the deltoids and spinati reacted to faradism, though obviously much weakened, which looks as if there might be some direct action on the muscles themselves.

¹ *La Médecine Moderne*, Jan. 22, '98.

² *New York Med. Jour.*, March 5, '98.

³ *British Med. Jour.*, Feb. 19, '98.

⁴ Quoted by Oliver in Allbutt's *System of Med.*, vol. ii, '97.

Treatment.—Hobbs¹ treated his cases with Epsom salt and hydrochloric acid, or with potassium iodide, also employing bromides where there was evidence of epilepsy.

OCULAR NEURALGIA.

Treatment.—Markoff² employs instillations of a solution of potassium cyanide, or of quinine muriate, as morphine and cocaine do not meet the therapeutic requirements; the former is ineffective, the latter too ephemeral as to results and also tends to induce neuro-paralytic keratitis.

Potassium-cyanide solution should be of $\frac{1}{8}$ - to $\frac{1}{2}$ -per-cent. strength, and kept in a dark bottle in a cool place; as soon as it loses its characteristic odor it becomes inert. Five or 6 drops suffice for an instillation and it should be used warm.

A 10-per-cent. solution of quinine muriate is best, for, unless prepared without acid, it either causes severe smarting or irritates the eye. Morphine muriate may be combined with the solution, if desired, in the proportion of $\frac{1}{20}$ per cent.

No ocular neuralgia will resist more than one or two of these instillations; the underlying cause may remain, but the pain is banished. If pain is not relieved fifteen minutes after an instillation, it should be repeated.

PERNICIOUS ANÆMIA.

Symptoms.—Coleman³ reports the case of a man, aged 67, admitted to hospital in June, '97, complaining of weakness and shortness of breath, who had been getting pale and weak for two or three months; occasional attacks of diarrhoea and vomiting. He was extremely anæmic, skin being of a pale-

yellow or cream color; temperature, 99° to 101° F.; pulse frequent, soft, and compressible; systolic murmurs in aortic and pulmonary areas, and venous hum in the jugular region; dyspnoea on exertion. Urine normal in quantity; specific gravity, 1015; dark in color; acid in reaction; contained neither sugar nor albumin; gave urobilin spectrum and marked indican reaction; urea, 2 per cent.; no trace of iron; ptomaines not examined for. Had subconjunctival ecchymoses, but no retinal hæmorrhages. Blood, pale pink, very watery, did not clot readily; specific gravity, 1034; fresh specimens showed great variation in size and shape of red cells, which had no tendency to *rouleaux* formation. Hæmoglobin reduced to 30 per cent. of normal; red cells numbered 1,000,000 and subsequently 800,000 per cubic millimetre (only 20 to 17 per cent. of normal number); only 1100 white cells per cubic millimetre; but on day of death they amounted to 21,000. Stained blood-preparations showed poikilocytes, megalocytes, microcytes, and nucleated red cells; some red cells had lost their hæmoglobin (shadow-corpuscles) and others showed polychromatophilic changes. Patient had some hæmorrhage from gums. Died three weeks after admission to hospital.

Treatment.—Arsenic was tried, but had to be discontinued; gastric sedatives, intestinal antiseptics, rectal injections of water, oxygen inhalations, and nutrient enemata given.

Autopsy.—The post-mortem examination disclosed no lesion to account for the anæmia; the body was fairly-well nourished; subcutaneous fat in consid-

¹ New York Med. Jour., March 5, '98.

² Wratsch, No. 12, '97.

³ Dublin Jour. Med. Science, March 1, '98.

erable quantity; lungs very anæmic; heart fatty with atheroma above aortic valves; absence of blood throughout entire vascular system; spleen firm, small, red; kidneys pale, firm capsule not adherent; liver fatty; stomach and intestines very pale, with atrophy of their walls.

PNEUMONIA.

Symptoms.—W. H. Thomson,¹ of New York, recognizes that of late years lobar pneumonia often fails to follow the definite course commonly ascribed to it. In the histories of a series of all cases occurring consecutively in Bellevue Hospital, in only 3 could it be said that they conformed to the old-fashioned type, with a definite crisis and a progressive change for the better afterward, while in 3 a partial crisis only occurred, and in 5 none at all. In 8 out of the 11 the convalescence was very tedious, and marked by a variety of constitutional symptoms, in which often the essentially toxic nature of the disease was strikingly indicated.

In this connection, Henry L. Elsner, of Syracuse,² presents some interesting deductions based upon careful consideration of 150 cases observed in private, consultation, and hospital practice. In many of these unusual features presented during the course of the disease, frequently making a positive diagnosis impossible, and at other times obscuring the diagnosis of pneumonia which had already been made. In 80 per cent. of the cases the characteristic chill and fever and all of the other usual symptoms followed each other in regular order, the disease running a typical course within from six to eleven days. In the other 20 per cent. vagaries showed themselves. The right lung was involved in

60 per cent. of cases; the left lung in 24 per cent.; both lungs in 16 per cent. There were 12 cases in which the apex was involved; in 7 the right apex was diseased; in 5 the left.

In 14 per cent. of cases in adults the initial chill was absent. This was commonly observed in pneumonia occurring in alcoholics, in aged and enfeebled subjects, and in most of the severer forms occurring in children. Seventy per cent. of the influenza-pneumonias were ushered in with a well-defined chill, severe, but characteristic of the ordinary form of the disease; when this occurred, the pneumonia was of much shorter duration than in cases in which the chill was absent; it was also associated with a more sthenic condition of the patient, and gave a decidedly-better prognosis. In a few cases of this type the author was surprised to find large areas of consolidated lung-tissue, sometimes remnants of recent pneumonias, without marked subjective symptoms, but with positive physical signs, in which the condition had not been suspected. Many of these cases dragged along during a number of weeks with but little sputum, although, at times, there was marked rusty expectoration during a day or two. Most made a full recovery. Microscopical examination of sputum showed the pneumococci of Fränkel and Friedländer, and frequently streptococci in abundance. It may be readily understood that these cases aroused a suspicion of existing tuberculosis. The microscope served to differentiate this latent form of pneumonia from the tuberculous infection which we have learned to fear as a complication or sequel of influenza.

¹ New York Med. Jour., Oct. 9, '97.

² Med. News, Jan. 8, '98.

Most difficult to diagnose were cases of central pneumonia, without chill, occurring in children, occasionally in adults, with marked gastric symptoms, slight jaundice, abdominal distress, and pain. In many of these there was but little cough during the first twenty-four hours, hurried respiration and a continuously high temperature being the only accompanying symptoms. Persistently-rapid respiration and elevation of temperature were present, even though other marked pulmonary symptoms of a subjective or objective character were not manifested. The abdominal pain and slight jaundice misled a number of physicians with whom he had seen these cases.

It may be safely concluded that the cases of pneumonia characterized by absence of chill are, as a rule, of the sthenic variety; that they run a protracted course, rarely terminating before the eleventh or thirteenth day, then usually by lysis. In a large number an alarming typhoid condition developed during the fourth or sixth day, death usually ending the scene with less evidence of carbonic-acid poisoning than is present in equally-serious sthenic cases of the disease.

Another variety which is most difficult to diagnose is the one presenting the symptom-complex of an acute meningitis. In such instances there is not a single physical sign or subjective symptom to call attention to the lungs, but a clear picture of meningitis, often without respiratory embarrassment. In these cases the deep involvement of the brain is due to pneumonococcic toxins.

Hyperpyrexia was frequently found in the sthenic forms of the disease. Of 15 hospital cases the temperature rose above 105° F. in 5. In 1 of these the tem-

perature reached 107.5° F., remaining there almost twenty-four hours before death occurred. In 2 in which recovery occurred the temperature reached 106.2° F. In private practice, of 135 cases, the temperature rose above 105.5° F. in only 10, 7 of which occurred in children. With corresponding involvement of lung-tissue, it may be assumed that the temperature in children ranges from one and one-half to two degrees higher than in adults.

From the cases considered, Elsner concludes that the fully-developed physical signs which justify a positive diagnosis of pneumonia are rarely present before the end of the second day of the disease, and it is not infrequent to see the third day pass without the development of the characteristic breathing and râles. He witnessed several cases in which, with fully-developed physical signs, there was no expectoration.

Contrary to the belief of many who attribute to mixed infection little influence on latent tuberculosis, and who prognose favorably in cases of this class, the author states that, while there are in many of these cases no subjective complaints or objective symptoms of pulmonary tuberculosis before the appearance of the pneumonia, careful inquiry and thorough search reveal the fact that there have been foci in distant organs from which pulmonary tuberculosis proceeded or with which it was originally closely related. Many of these patients present good family histories, while their personal record strengthens the conclusion that lung-tuberculosis may be present, but dormant, awaiting the advent of some depressing agent or added pulmonary disturbance. When, by the addition of the second germ, the resisting power of

the patient who has an unsuspected tuberculosis is lowered, the result, as a rule, will be tissue-disorganization and consequent progression of the original disease.

Pathology.—J. W. Moore¹ adduces evidence sustaining the view that the micro-organisms peculiar to erysipelas, to influenza, to tuberculosis, and to enteric fever may one and all give rise to a specific pneumonia or pneumonic fever; so also may Loeffler's diphtheria bacillus and the bacillus of malignant anthrax, as well as other pathogenic bacteria.

In the form due to erysipelas, which has been called "erratic" or "vagrant" erysipelas (*erysipelas migrans*—the *erysipèlas ambulans* of French writers) the attack may be protracted for one or two months. In such cases, not only every part of the surface of the body, but the whole tract of mucous membranes, and even the lungs and pleuræ, may, in turn, become affected. Peter,² of Paris, has drawn attention to the spread of erysipelatos inflammation from the pharynx to the respiratory passages, causing, in sequence, bronchitis, bronchiolitis (capillary bronchitis), and pneumonia.

The teaching of Levy,³ of Strassburg, that streptococcus pyogenes is an exciter at once of suppuration and of erysipelas, is now generally accepted. If we admit the identity of the pus-producing streptococcus with that of erysipelas, we at once obtain a key to the occurrence of an acute pneumonia in erysipelas; for this very bacterium—the streptococcus pyogenes—plays a part that is second to none in the production of influenza-pneumonia.

The pneumonia of influenza, while producing the ordinary physical signs of acute croupous pneumonia, is often latent in its course or accompanied by a

profuse muco-purulent expectoration, with scarcely any rusty sputa. The ebbing of the strength in some of these cases in elderly people is often absolutely beyond control.

Cultivation experiments by Ribbert⁴—with the tracheal mucus, the lung-tissue, the spleen, and the kidneys—revealed, in 5 out of 8 cases, the streptococcus pyogenes or else the streptococcus erysipelatosus (which has been shown to be identical with the former), the presence of which could be demonstrated in the sputum also of influenza patients. His investigations, on the whole, evidenced that, in all cases in which micro-organisms were at all capable of demonstration, the streptococcus pyogenes was to be found. Only once was there in addition a coccus which bore marked resemblance to the diplococcus pneumoniae, and probably represented a modification of the same.

Finkler⁵ pointed out that the resemblance of this form of pneumonia to erysipelas consists not alone in the anatomical characters of the inflammatory process, but also in the fact that both diseases depend on the presence of streptococci. Finkler looks upon this streptococcic pneumonia as a localization of the exciting cause of influenza in the lungs due, in Moore's opinion, to a secondary infection, for which the influenza merely laid the foundation.

In acute phthisis or scrofulous pneumonia, the inflammatory nature of the lesions in the lung or lungs and the rarity of miliary tubercle are among the characteristics.

¹ Brit. Med. Jour., Jan. 1, '98.

² "Angines," Dictionnaire Encyclopédique des Sciences Médicales, tome iv, p. 720.

³ "Ueber die Mikro-organismen der Eiterung," Arch. f. experiment. Path. u. Pharm., 29, p. 135.

⁴ Deut. med. Woch., No. 15, '90.

⁵ Deut. med. Woch., No. 5, '90.

In a recent work Muir and Ritchie say that most observers will agree with Gaffky in attributing any failure to find typhoid bacilli in the organs of a typhoid patient to the difficulties of the search; they further state that in the lungs there may be patches of congestion and of acute broncho-pneumonia. In these, typhoid bacilli may sometimes be observed, but evidence of a toxic action depressing the powers of resistance of the lung-tissue is found in the fact that the pneumococcus is frequently found in such complications of enteric fever.

The above quotations and many others submitted by Moore, ably sustain his view that a true pneumonitis may occur in any one of the four diseases with which his communication deals, namely: erysipelas, influenza, tuberculosis, and enteric fever.

Dürck¹ examined the lungs of patients who had died from diseases other than pneumonia, and found that the pneumococcus predominated, and, further, that these could be obtained even in the lungs of animals freshly killed. This warranted the conclusion that some must be present at times in the air-passages of healthy men. He then studied the effect of cold by keeping animals for twenty-four hours or more at a temperature of 37° to 39.5° C., and afterward plunging them into ice-cold water for about five minutes. Pneumonia was always produced, and sometimes the lobar pneumonia in the red-hepatization stage, with fibrinous exudation in the air-cells. The presence of the pneumococcus in healthy persons and the effect of cooling animals explain, he thinks, the chain of events in the development of an attack. Exposure to a chill plays an important part in depressing the vitality; the organisms are

thereby allowed to invade the lung. Histologically, there was no association of a particular organism with a particular histological change to be found. The pneumococcus might be found in large numbers where there was no trace of fibrinous exudation, as well as in cases where fibrin was abundant; so also in the case of other organisms.

Andrew H. Smith,² while recognizing that the discovery of the pneumococcus enables us to look upon croupous pneumonia as an infectious disease depending upon the action of this bacterium, says the manner in which the micro-organism brings about the local and general condition remains unexplained. Although the pneumococcus may find its way into the blood- and lymph-vessels, the most likely channel of infection he thinks is by the air-passages. He sustains this view by the well-known fact that two-thirds of the cases of foreign bodies passing down the trachea finds their way into the right bronchus, pneumonia being common to the right side.

In a series of experiments Dürck¹ found that intratracheal injection of the pneumococcus or other bacteria, alone, was insufficient to cause pneumonia, but that such resulted when irritating dust was also injected.

Constanzo Zenoni³ observed a case of pneumonia secondary to epididymitis in which very large streptococci, forming long chains, were found in the pleural exudate. He, therefore, concludes that his investigations may be taken as favorable to the theory of the homology of the various forms of streptococci.

Toxæmia, according to Osler,⁴ is the most common cause of death; the symp-

¹ Deut. Arch. f. klin. Med., June, '97.

² Med. Record, Jan. 2, '97.

³ Centralb. f. Bakt. Parasit. u. Inf., Jan. 9, '97.

⁴ Amer. Jour. Med. Sciences, Jan., '97.

toms may develop early and cause, from the outset, severe cerebral symptoms. The toxæmia may be severe and fatal even with consolidation of only one-half a lobe, being, in reality, due to the action of the specific toxins on the heart-centres rather than on the muscular substance of the organ itself. The author contends that the toxæmia outweighs all other elements in the prognosis of pneumonia.

Royal Amidon¹ argues that the obstruction of the pulmonary circulation is not commensurate with pulmonary consolidation. The intense and general pulmonary congestion often present offers sufficient resistance to the pulmonary circulation to explain all the symptoms dependent thereon. The author reports cases in which spontaneous hæmorrhage was followed by speedy improvement.

Prognosis.—Osler² considers the general death-rate for pneumonia to be 20 to 30 per cent. Above the age of 60 the mortality is from 50 to 80 per cent., while young people are prone to recover. The same is the case in robust healthy adults; for instance, the death-rate in the German army in over 40,000 cases was only 3.6 per cent. General debility, poor food, and alcoholism greatly increase the danger.

Weismayer³ thinks that examination of the sputum in cases of pneumonia is of practical importance. The prognosis is, in general, more unfavorable when streptococci are found; it increases the length of the illness and adds to the danger of abscess-formation and of secondary infection by tubercle bacilli.

Treatment.—The practical deduction from both clinical and bacteriological observations of the facts of pneumonia emphasizes anew, according to W. H.

Thomson,⁴ the utter futility of treating diseases according to their names. From many clinicians we hear that it is doubtful whether the treatment of pneumonia is any more successful now than it was thirty years ago. This doubt he fully shares; but one reason may be that pneumonia is too much regarded as pneumonia and nothing else, instead of being an infectious disease which produces very differing effects in those attacked according to very varying conditions in the infection. Moreover, at the very outset, it is unsatisfactory to treat a case of poisoning by dealing with its effects or symptoms instead of aiming to neutralize the poison itself. Time alone will show whether an antitoxin can be furnished to the profession, as it is from this quarter only, he believes, that any real improvement in the treatment of pneumonia can be expected. Until then we are left only to dealing with indications.

The treatment of eleven cases, all of which recovered, was, first, to lessen the vascular excitement of the early stages—*i.e.*, for the first day or so—by aconite and sweet spirit of nitrous ether. As to the high temperature, he did not feel solicitous if it failed to rise above 106° F., considering the pyrexia rather beneficial than otherwise. His chief task, as will be seen by the records, was to deal with the threatened heart-failure; this danger, in a number of them, continuing for such long periods. Besides peptonized food, his chief medicinal recourse was to a prescription of equal parts of the tinctures of *nux vomica*, *digitalis*, and *strophanthus*, of which 25 to 30 drops were given every three hours.

¹ Med. News, March 6, '97.

² Amer. Jour. Med. Sciences, Jan., '97.

³ Zeit. f. klin. Med., B. 23, Supplement, '97.

⁴ N. Y. Med. Jour., Oct. 9, '97.

Caffeine, with Hoffmann's anodyne, was also used, and the tincture of iron muriate. But the most striking effect noted, when these failed to act satisfactorily, was from doses of 7 to 10 grains of camphor, given hypodermically dissolved in sterilized olive-oil. In one case it is doubtful if the patient would have been saved without these injections, as his pulse responded to nothing else.

Arthur Foxwell¹ emphasizes the fact that no disease calls more frequently for active interference. A cardiac dilatation, if noted early, may be remedied by the use of strychnine, but twelve hours later it may defy all efforts. Twenty-four hours' continuance of high tension may fatally exhaust a heart which would have struggled on had this been cut short twelve hours before.

Careful, repeated physical examination should be made, which need not disturb the patient, and the results of this examination should, in every instance, be recorded at the time in the bedroom; otherwise, they lose most of their value, for it is only by the careful comparison of these results that the progress of the case can be estimated with any accuracy.

DIGITALIS.—According to Huchard,² diuresis is established promptly by digitalis, and, during four or five days, it contributes to the elimination of all the toxins produced by the infectious disease. Gingeot and Deguy³ were able to verify this in parallel charts of the urine and the temperature; when one fell the other rose. Congestion seems to disappear more rapidly and the exudation is more rapidly absorbed. Pneumonia is dangerous through the exhaustion of the organism; although the disease is in the lungs, the danger is to the heart and the nervous system.

Under the influence of digitalis, as is well known, the urine increases. There is an abundant precipitate of urates; the temperature falls and becomes regular; the pulse normal.

Rubel,³ in commenting upon the mortality reported as being that of pneumonia under large doses of digitalis (2.6 per cent. in 1192 cases), contends that in the young, robust men the mortality is always low. Petrescu claims that with this method the disease could be arrested in three days. Rubel, who tried the method, found that apyrexia was established in from seven to ten days, and that convalescence was not shortened. Instances of poisoning by this method being on record, he advises that the method be dropped.

Gingeot and Deguy² report twelve cases of pneumonia due to influenza in which they employed digitalis with most excellent results. No deaths occurred at all, while in two cases of double pneumonia the favorable results were striking. The day after administration of the digitalis the patients experienced a sensation of well-being which was quite peculiar; if delirium existed it ceased, and the albuminuria diminished and finally disappeared. The antithermic action was marked; the heart's action became slower; the pulse became stronger, and the arterial tension was increased.

WATER.—Elmer Lee⁴ contends that when water is introduced into the circulation in sufficiently large quantities and at regular, suitable intervals, inflammatory processes are checked and injury to delicate tissues greatly lessened. In inflammation of the cellular and mu-

¹ Treatment, Aug. 26, '97.

² Revue de Méd., March 10, '97.

³ Wratich, No. 2, '97.

⁴ Med. Times, Dec., '97.

cous structures there is great loss of the fluid element of the blood. Water maintains the volume of the circulating fluid and diminishes the danger of fatal congestion.

Baruch¹ highly recommends baths for children and wet compresses for adults. For children the bath is administered alongside the bed, as in typhoid fever. Beginning with 95° F., each bath may be reduced a few degrees until the patient becomes accustomed to it, repeating every four hours until the temperature remains below 102.5° F. The bath-temperature should rarely be below 85° F., the patient should remain in it from eight to ten minutes, and friction after the bath is required to prevent chilling. For adults the wet compress, wrung out of water at 60° F., is wrapped around the chest and covered with flannel. It should be changed every half-hour if the patient's temperature is over 102.5° F.; every hour if the temperature is below this. It should be discontinued when the temperature falls to 99.5° F.

Klein² relieves dyspnoea by means of cold compresses: A napkin large enough to reach from the top of the sternum to the stomach and to cover the anterior and both lateral surfaces of the chest is dipped in cold water at a temperature of 46° to 50° F. and applied to the chest. At the end of five minutes it is replaced by a cold one, and this treatment is continued for an hour. After a half-hour's rest three similar series are carried out. The treatment is said to be free from danger and acceptable to the patients.

OXYGEN.—H. M. Fisher³ mentions a case attended with great prostration from the first and which resisted free stimulation. No marked reaction was noted till oxygen inhalations had been

given almost continuously for forty-eight hours, when distinct improvement in all the symptoms was observed.

VENESECTION.—Royal Amidon⁴ attributes to neglect of blood-letting in pneumonia the increased mortality.

Arthur Foxwell⁵ recommends venesection at the elbow, withdrawing 10 ounces of blood in cases where the disease is ushered in with a pulmonary hyperæmia so intense and wide-spread that its suddenness completely overthrows the right heart, and the patient lies gasping, livid, and with much-distended veins.

STRAPPING.—In a case of pneumonia with severe pain in the side, in which he could not resort to the injections of morphine, Solberg⁶ applied strips of adhesive plaster, as in cases of fractured rib. Even the dyspnoea and the cough seemed to be mitigated. The strips used were of American adhesive plaster, not more than an inch and a half wide.

CHLOROFORM.—Andrew H. Smith⁷ argues that the most natural direction for therapeutic effort would be that of attempting to render the exudate inimical to the development of micrococci, and recommends inhalations of chloroform for this purpose.

STAMMERING.

Etiology.—Holger Mygind, of Copenhagen,⁸ examined 140 pupils of the State School for Stammerers, 117 of whom (or 84 per cent.) were males. He concludes that a predisposition to this fault exists during the first two years of life, and sometimes also during the two succeed-

¹ Medical News, Jan. 2, '97.

² Bull. Gén. de Thé., 6e liv., p. 270, '97.

³ New York Med. Jour., Sept. 11, '97.

⁴ Medical News, March 6, '97.

⁵ Treatment, Aug. 26, '97.

⁶ Deutsche med. Zeit., Aug. 5, '97.

⁷ Med. Record, Jan. 2, '98.

⁸ Hospitalstidende, p. 305, '97.

ing years; also between the ages of six and eight, and at puberty. One-fifth of the 140 examined began to give evidence of this fault in speech before they completed their second year, and nearly one-half between the first and beginning of the fifth year. The great majority of those who commenced to stammer during the third or fourth year had learned to speak late: nearly one-half learned to speak after the second year and one-third after the third year. Of those who acquire the defect between the sixth and eighth years, Mygind thinks that they were influenced by surroundings, inasmuch as one-half of the pupils at the State school who entered the institution at this age became worse for awhile. As most of those examined were children, the influence of puberty could not be determined.

HEREDITY.—Stammering appears to be an hereditary or family affection. Fifty-nine pupils (or 42 per cent.), among these 6 pairs of brothers and sisters, had relatives who stammered, the number of the latter, so far as ascertained, amounting to 83, and 44 of whom bore the relations of sisters and brothers to pupils, and 23 of fathers; altogether, 17 per cent. of the fathers had been stammerers. It cannot be denied, however, that moral contagion was a factor in some instances. Again, 9 per cent. of pupils had insane relatives; of 134 fathers, 3 per cent. were insane. Four per cent., among which were 2 brothers and 2 sisters, had idiotic relatives. Twenty-three (or 16 per cent.), counting 2 brothers and sisters, had epileptic relatives. Eighteen pupils had lost brothers and sisters from convulsions, not of epileptic character. Three had chorea in their families; and 44 possessed relatives suffering with maladies

of neurasthenic or hysterical nature; one-fourth of all the mothers came in this latter category. Twenty-seven pupils had 34 migrainic relatives, of whom 23 were mothers and 3 fathers. Eight per cent. of pupils had relatives prone to asthmatic attacks. Two had deaf-and-dumb relatives. Adenoid vegetations existed in 38 per cent. of pupils, and in several the defect in speech disappeared with the removal of the growths. Only 4 gave evidence of rickets, and 3 were scrofulous. Three of the fathers were alcoholic *habitues*. Twenty-one per cent. of pupils exhibited evidences of pulmonary tuberculosis; 7 per cent.—a total of 9—suffered with deafness; 1 had harelip; and 15—10 per cent.—were of very low grade of intelligence.

The occasional causes are of lesser significance. In 16 of the cases intercourse with other stammerers was manifestly the chief factor in producing their own speech-defects; but even in half of these there was evidence of nervous disease existing among immediate relatives. In 9 per cent. of these cases, also, diseases of infectious origin were cited as causes for stammering, though there must likewise be admitted the existence of predisposition. Contusion of head was assumed to be a cause in 1 instance; and mental impression as induced by fright in 6 cases.

Finally Mygind holds that stammering generally is an evidence of degeneration, hereditary or acquired, though all stammerers are not necessarily degenerate.

Makuen, of Philadelphia,¹ in a measure corroborates Mygind. In 15 per cent. of cases fright was active in causation; in 32 per cent. there were stammerers

¹ Ann. Gynecol. and Pædiat., Feb., '98.

among relatives; in 30 per cent. the origin might be traced to association with other stammerers and imitation.

Much depends upon the patient. Every case may be cured if he will do the work necessary. Stammering is purely a neuro-muscular habit, and the trouble exists in the cerebral mechanism or so-called speech-centres; in the peripheral mechanism of speech, including the respiration or the vocal and the oral articulating organs; or in the nerve-tracts uniting the central with the peripheral mechanism.

Every stammerer is nervous, and many attribute the affliction to nervousness; but so completely does the neurotic element disappear oftentimes after the stammering has ceased, that it would seem in many cases that the speech-defect is the cause and nervousness a result.

TÆNIA.

Treatment.—Carratu¹ notes that the internal administration of chloroform often removes tape-worm after all other anthelmintics, or so-called *tæniafuges*, have failed. Place the patient on moderate diet for two days—it is not necessary he should fast—and then, in the course of eight hours administer from $\frac{3}{4}$ to 1 drachm of pure chloroform in syrupy vehicle; *i.e.*, one-fourth of this amount is to be given every two hours until all is taken. Subsequently a dose of castor-oil should be ingested. No unpleasant effects supervene.

Watson² suggests the following: Rub 2 minims of croton-oil with 2 drachms of powdered gum arabic, then add 1 drachm of extract of male fern. To this emulsion add a decoction of pomegranate-root bark, 4 drachms; pumpkin-seed, 30 grains; fresh ergot, powdered,

30 grains; in 8 ounces of water. The whole at one dose. In making a decoction it should be boiled for fifteen minutes, then carefully strained.

Sass³ calls attention anew to the use of black oxide of copper, first recommended by Hager, in 1888, as a remedy for tape-worm. It is given in the form of pills made as follows:—

R Black oxide of copper, 90 grains.
Precipitated chalk, 30 grains.
Kaolin, 180 grains.
Glycerin, 150 grains.

For 120 pills, of which 8 to 12 are to be taken daily. For a week, the patient takes 2 pills four times a day, and during all this time must abstain from everything acid. At the end of the two weeks a full dose of castor-oil is given.

For children the following is employed:—

R Black oxide of copper, 75 grains.
Precipitated chalk, 15 grains.
Magnesium carbonate, 15 grains.
Tragacanth gum, 150 grains.
Glycerin, 75 grains.
White sugar, 600 grains.
Water, q. s.

For 50 pastilles, of which 2 or 3 may be taken daily. At the end of three or four days the *débris* of the *tænia* appear in the stools, and the symptoms caused by it disappear. This treatment requires no rest in bed, and it is particularly recommended for cases that have proved refractory to other remedies.

TYPHOID FEVER.

Dietetics.—A. G. Barrs, of Leeds,⁴ pleads for a less restricted diet, and at

¹ *Glor. Med. del Reg. Esercito*; *British Med Jour.*, Dec. 4, '97.

² *Medical Age*, Oct. 25, '97.

³ *Medisch Weekblad*, No. 20, '97.

⁴ *British Med. Jour.*, Jan. 16, '97.

the same time states that many practitioners have learned—clinically, practically, and to their sorrow—that milk is neither an ideal nor a safe diet in all cases. Unfortunately, because of its fluid character, supposed innocuousness, and the general belief that it presents a maximum of nourishing qualities, milk is too often selected as a routine diet. As perforation is, by far, the most important lesion to fear, it has been assumed that any solid food is an element of danger; but the fact remains that, if the stomach is digesting and the food digestible, it will reach the seat of the lesion in a suitable state of fluidity regardless of its former solidity; but, if the stomach is not digesting and the patient is not hungry, it is an act of folly to stuff him. Again, milk at a certain stage of digestion is as much of a solid as is meat,—a fact commonly lost sight of,—and thus not infrequently passes into the intestines and on to the typhoid lesion in a condition that renders it a highly-irritating mass, and consequently it is not, under such circumstances, without a considerable element of danger. Finally, when the stomach is at all active, a diet consisting of normal proportions of wholesome solid food (meat and bread) is much less likely to give rise to an excess of intestinal gas than a diet of milk or one consisting exclusively of fluids. Solid food cannot alone be a cause of perforation, as some have assumed, since, if this were true, perforative accidents could not, as they now often do, occur during a strictly-regulated fluid diet.

Frederick Shattuck¹ upholds Barrs in as far as allowing considerable latitude in the matter of the diet of typhoid patients. He desires it specially understood that by the term "latitude" he

does not mean "indiscriminate." The following is suggested:—

Milk, hot or cold, with or without salt, diluted with lime-water; soda-water, Apollinaris water, Vichy; peptonized milk, cream and water, milk with white of egg; slip, buttermilk, koumiss, matzoon, milk-whey; milk with tea, coffee, and cocoa.

Beef, veal, chicken, tomato, potato, oyster, mutton, pea, or bean-soup, carefully strained and thickened with rice (powdered), arrow-root, flour, milk or cream, egg, and barley.

Horlick's food, Mellin's food, malted milk, carnipectone, bovine, and somatose.

Beef-juice.

Strained cornmeal, cracker, flour, barley-water, or toast-water gruel; albumin, and water with lemon-juice.

Ice-cream.

Eggs, soft boiled or raw; eggnog.

Lean meat finely minced, scraped beef, the soft part of raw oysters, soft crackers with milk or broth, soft puddings without raisins, soft toast without crust, *blanc-mange*, wine-jelly, apple-sauce, and macaroni.

For a number of years he adhered as strictly as possible to an exclusively-milk diet until at least a week had elapsed from the date of the first normal evening temperature; closed his ears to the clamors of adults, and eyes and heart to the tears of children. "It was only recently, comparatively, in the general opinion of the profession that relapse is or may be due to errors in diet."

A fresh access of fever has led many to carefully inquire into the kindness of officious friends, and it was often proved that forbidden fruit, actually or metaphorically, had been brought in by

¹ Jour. Amer. Med. Assoc., July 10, '97.

a visitor, which appeared an entirely satisfactory explanation; when proof could not be had, the fact of relapse was strong presumptive evidence of sin. Better is known now, and while it is recognized that errors in diet may produce fever, as may fatigue or excitement in convalescence from any severe disease, it is not believed that they can induce fresh invasion from within.

Shattuck further remarks: "One of the things which set me thinking on this question of diet was the favorable course run by several acute febrile cases for whom was ordered a full diet because they were weak, believing at the time of so doing that typhoid could be excluded, but being forced to the conclusion later that only typhoid fever could explain the whole course of the disease. These patients did perfectly well, were happier, and convalesced more rapidly than my recognized typhoid cases fed exclusively on milk. For five years now I have been enlarging the diet of my typhoid cases and have seen no reason to regret this course, but, on the contrary, found cause for satisfaction."

So, too, William Ewart¹ advocates a "middle course" in respect to diet in typhoid. While he believes the best diet is a simple one and that safety lies in strict adherence to approved routine, he has saved many lives from the risks which often accrue to too much zeal, and holds "routine based upon general opinion which itself is derived from exclusively the operation of the routine, is not a progressing method or a convincing argument." A definite assurance that relapses, while apt to occur with other diets, never did occur with a uniform and exclusive milk diet, would at once set at rest all controversy, yet the

absence of any such assurance is evidence that the question should be carefully studied and that we "should bear in mind that clinical improvements, however important, cannot, at their inception, command the support of large statistics."

The primary indication in typhoid is to keep up the vitality of the tissues by feeding the patient according to the very best method; and how to do this effectually, with judgment and with safety, and with due regard to the indications of individual instances, is the daily problem. Milk, specially designed for the needs of growing infancy, can hardly be regarded as also adjusted with perfect nicety either for the wear and tear of adult life or for the wasting effects of continued fevers. The excessive muscular wasting observed in typhoid fever does not argue the necessity of a mainly nitrogenous diet, but rather points to deficiency in the daily allowance of fuel, a deficiency which must be made good from some source, even at the expense of so much muscle. Milk supplies much, but not all, that is required; it should, and can, safely, be supplemented with small and inoffensive adjuncts which, day by day, will make up the difference. A little more carbohydrate than milk contains may save a large and unnecessary waste of muscle. And one can do much more than economize weight, if at the same time he is careful not entirely to withhold the fresh vegetable principles which are universally held to be essential to the making of the best blood.

As soon as the typhoid condition has been overcome by medication,—and this is most often the work of a very few days—malt preparations are well borne,

¹ British Med. Jour., May 1, '97.

as is yelk of egg (and a little later the white also) or calf's-foot or chicken jelly. Later, *blanc-mange* or custard; honey, which is specially indicated in constipation; even chocolate may be enjoyed; and, as digestion gains strength, the juice of oranges, the pulp of ripe grapes, and baked apples supply the grateful and healing fresh, vegetable principles. Patients steadily improve under such diet, and their general well-being speaks therefor. In a young woman admitted to hospital after ten days' exclusive, but insufficient, milk-supply in a typhoid and somewhat wasted condition, Ewart obtained, by this plan, a result which he had never

noticed before during the continuance of the pyrexia, namely: an ample return of subcutaneous fat.

Ussery, of St. Louis,¹ insists that bananas are excellent food for typhoid patients: a claim one is inclined to theoretically indorse if the fruit is properly ripe, since, pound for pound, this fruit contains four times as much nourishment as does ordinary wheat-flour. Again, it is not too solid; it is almost completely absorbed before reaching the ileum, and does not yield sufficient waste to irritate the intensely inflamed and engorged membrane of the small intestines.

¹ Medical News, Jan. 27, '98.

Editorial.

DIGITALIS: ITS USE AND ABUSE. NON-UTILITY OF STUDIES ON LOWER ANIMALS.

THIS drug has been before the medical public for about three hundred and sixty years, and, since 1775 at least, has furnished the subject-matter for many voluminous and interesting essays; yet, strange to say, the majority of medical men appear to be as much in the dark regarding its physiological relations and rational administration as were their forefathers of two and three generations gone.

Up to within a quarter of a century digitalis was commonly described as an adénagic, antiphlogistic, antipyretic, and heart-sedative, but chiefly commended as a diuretic, though admittedly possessed of considerable unreliability. Indeed, so much was said and claimed for the drug that the expectations of the newly-fledged practitioner were placed entirely too high, for theoretical assumption and speculation generally usurped the place of rational, careful, and practical study. And even to-day, though modern research seems to have conclusively established that digitalis is not a cardiac sedative and depressant, but, instead, a tonic and stimulant, this knowledge accrues less to a better understanding of the drug than to fuller comprehension of physiological problems connected with the circulatory apparatus. There are many who yet hold to sedation of the heart by digitalis, and the agent is still prescribed in a most empirical way for all forms and classes

of cardiac and arterial disease, from syncope and simple hypertrophy up to aneurism and exophthalmic goitre.

The actions of digitalis are varied and multiple, being materially modified by many causes: such as dosage; temperature, humidity, and other climatic surroundings; presence or absence of the febrile state; condition of excretion; idiosyncrasy (and there is no remedial agent toward which persons are more generally idiosyncratic, oftentimes unaccountably so, and in varying degrees at different periods). Again, the drug often has an elective affinity, so to speak, for certain organs and tissues, according to the character of the preparation employed; notably, too, stimulant action upon the heart and circulation may not be made manifest until twenty-four or thirty-six hours after the initial dose, while, on the other hand, the same action may persist from three to seven days after the medication has been withdrawn.

Sometimes supposed idiosyncrasy may lie wholly with the prescriber, owing to ignorance of the character of the preparation employed and misconception of "affinities," both physiological and pharmacological. Every practitioner should realize that the average tincture as had in shops is usually inert, being, on the score of cheapness, derived from dried and pressed leaves of uncertain age, plucked perhaps at any season and stage of the plant's growth, and cured without method. It is well understood by pharmacologists that little or no virtues accrue to foliage that is not of the second year of growth of the uncultivated fox-glove, which must be gathered just before the close of the season of flowering, and especially dried in the dark at a carefully-regulated temperature; also that the best digitalis, after ten or twelve months, even if kept in well-guarded and stoppered tins and jars, will have parted with most of its virtues. Hence foreign pharmacopœias lay particular stress on selecting freshly-gathered leaves, especially for preparing infusions, tinctures, and fluid extracts. Adulteration is another source of uncertainty and annoyance, the leaves of the black nightshade, black mullein, and even of the common potato, or all three, being utilized for this purpose, though fortunately all are easily detected by making a concentrated infusion with a suspected leaf and testing on an opalescent plate by means of a drop of ferric chloride: if the reaction is a deep green, the leaf is of the fox-glove; if blue, of an adulterant.

Tinctures made with the aid of fluid extracts do not, by any means, represent the properties of the drug in the same degree as those had by means of maceration and percolation of the freshly-gathered leaves. Neither do the solid and fluid extracts, or abstracts, unless made by the substitution process and with the avoidance of any but the most gentle or moderate heat, represent the true virtue of digitalis; a brown or black hue to the exclusion of green color is always *prima facie* evidence of more or less improper manufacture. The tinctures of the B. P.

and U. S. P. vary slightly as to the amount and strength of contained spirit, while the proportions of the drug are, respectively, 3 to 24, and 3 to 20. Notably, the most reliable tinctures are those had from German, eclectic, or homœopathic sources, all of which are made from fresh undried leaves: the two former by maceration and percolation, the latter by expression of juice and subsequent mingling with an equal proportion, by weight, of 87° alcohol. Two other excellent preparations that meet with favor in Europe are the ethereal tincture—which is twice the strength of the alcoholic tincture of the U. S. P.—and acetum digitalis, —made by macerating 1 ounce of leaves in 9 ounces of vinegar and 1 of alcohol.

Tablets or tablet triturates, made with the so-called “concentration,” digitalisin, are dangerous, since this preparation is, by no means, constant as to strength. Tablets, also, purporting to embody the tincture or fluid extract of the drug are, for reasons obvious, usually inert, and hence not to be trusted.

Latterly the so-called “active principles” have been widely exploited, chiefly to the benefit of manufacturers and dealers, but none that are not deemed non-representative or inert are of a character to deserve confidence, at least not until more precise knowledge accrues thereto. All are glucosides, and not alkaloids as has been assumed, and notoriously are not constant as to either therapeutic or physical properties, being capable of further chemical subdivision. Thus digitoxin, which has been deemed most reliable because it appears as a component constituent of all except digitonin and digitin (the latter physiologically inert) yields digitoxiresin and a body as yet not fully identified and consequently unnamed. We can only re-echo the opinion of Roth, that digitalin, digitalein, digitaline, digitaleine, digitalin verum, digitoxin, digitaliresin, and digitoxiresin “are not to be recommended,” since they are as variable in strength and action as they are in dosage and titles, and often the same (supposed) precise agent is greatly at variance as regards different samples.¹

One of the greatest bugbears accruing to digitalis is its supposed “cumulative action,” echoed and re-echoed for more than a century, and which has led to overcautious use, even at times when administration was demanded boldly and in large doses. In truth, there is no such thing as “cumulative action,” except in a way any drug may become cumulative owing to ignorance or carelessness on the part of the prescriber tending to a disregard of the problems of elimination. When the blood-pressure is at its height, the functions of excretion as carried on by the kidneys may be arrested, and likewise the functions of the skin, and it is to the inhibition of elimination that any untoward (“cumulative”) action is due;

¹ Some idea of the ignorance and confusion that exists regarding these glucosides may be had from the variance of authorities as to dosage; thus the dose of digitoxin as given by different authors is $\frac{1}{320}$ to $\frac{1}{12}$ grain and $\frac{1}{160}$ to $\frac{1}{8}$ grain. Crystallized digitaline or digitalein exhibits a minimum of $\frac{1}{160}$ grain or maximum of $\frac{1}{8}$ grain, among seven authorities; and digitalin verum from $\frac{1}{320}$ grain to $\frac{1}{8}$ grain among six authorities.

and even this may often be prevented by exhibiting the drug in conjunction with some more direct stimulant to the renal organs.

That digitalis is not the highly dangerous remedy generally surmised the common every-day literature of the drug fully attests. The late Mr. Jones, of the Island of Jersey, was wont to give the tincture, in $\frac{1}{2}$ -ounce doses repeated every fourth hour, in delirium tremens, and thereby successfully treated some seventy cases without a single untoward result; and scores of practitioners have borne evidence as to the value and utility of the method, including Ringer and Sainsbury as recently as last year. Mr. King, of Suffolk, Eng., was accustomed to administer like doses for the purpose of combating acute inflammation: he sometimes gave 2 drachms of tincture to children under 12 months old; and in all his extensive experiences never witnessed a single dangerous symptom. Pereira declares he saw 20 drops of tincture prescribed three times daily for a fortnight to an infant suffering from hydrocephalus, and that he, himself, frequently gave a drachm "of the best quality" to an adult thrice daily for two weeks or more "without observing any marked effects." And, finally, H. C. Wood asserts that during an experience of twenty-five years, often with very large doses, he "never saw a case where digitalis seemed to do serious harm by a toxic action."

Unfortunately a large share of the information that accrues to digitalis is of a speculative or presumptive character, being based upon experiments conducted through the medium of small mammals, birds, and batrachians; but what reliance can be placed upon any evidence derived from procedures involving guinea-pigs, rabbits or hares, frogs, etc.? The first two are possessed of exceedingly-sensitive nervous organisms, and their timidity has passed into proverbs and wise saws; they often die under manipulation, purely from fright. It may here be remarked that the most trifling shock may prove fatal, as when shot or snared, and they do not die as the result of the wound or noose, but of ruptured hearts.¹

Experiments on birds and frogs may be even more misleading than those on mammals. There are no parallels between them and the human subject, as to food, physiological processes, habits of life, or elimination of waste. The bird presents a stomach practically devoid of absorptive powers, and the digestive functions are adapted to the form of food; it also has a three-chambered instead of a four-chambered heart, an anatomical peculiarity that invariably carries with it the excretion of solid urine. Even more remarkable are the relations of the two-chambered hearts of batrachians and reptiles. The latter are termed "cold-

¹ Of twenty rabbits selected at random in market that had been shot, seventeen exhibited wounds that could not in any way account directly for death, and the seventeen all had ruptured left ventricles. A single shot-pellet that penetrates the skin barely enough to produce slight ecchymoses of the tissues beneath is often fatal to the hare, and, when the creature is snared, there is often evidence the wire had not performed its work when death occurred, and here, inevitably the heart-ventricle is found torn. A cart-horse in Dumfries, Scotland, 7 years old, fell dead on viewing, for the first time, a railway-engine, and post-mortem revealed a ruptured heart, with no traces of disease anywhere.

blooded" because of the low degree of bodily heat that obtains, but the normal temperature of the creature as influenced by its circulation is no evidence of susceptibility or impressionability of the nervous system, or of the effects produced upon the muscular fibres of the heart. The severed heart of the common rat, a "warm-blooded" animal, responds less promptly to the stimulus of digitalis than the heart of the frog, and the batrachian, all things being equal, may be more promptly aroused from an anæsthesia than the rodent, through irritants applied to viscera or to abdominal or thoracic walls. Of what value, then, are the so-called researches undertaken on the lower forms of life in determining the impress any one drug may have on man?

Again, the latest contribution to the literature of digitalis asks us to believe, as the result of a single experiment with a litter of ten sucking pigs—five being employed as control—that the drug materially increases the muscular power of the healthy heart; even renders its fibres larger, more tense, yet elastic; and imbues them with greater strength. This may all be true, and is announced in perfect good faith, doubtless; but it must also be added that such announcement is, to say the least, premature. No worker in the physiological laboratory need be told that therein coincidences are much more common than facts, or that it is only by a series of carefully-conducted negatives that the true value of the positive can be arrived at. A score of similarly conducted experiments would prove nothing. And why should the genus *Sus* and its infantile representatives be selected for such purpose? Notoriously the hog has little in common with man aside from an omnivorous appetite and innate faculty for "making a beast of himself." The fact is that digitalis has no such action on the adult porcine as it has upon the human subject; even its toxicity is much less, and sometimes not at all apparent, for *Sus scrofa* ingests the fresh plant with impunity in quantities that would be speedily fatal to two or perhaps three equines; and, reasoning from analogy, sucklings should be even more immune. It is well understood also, by comparative anatomists and physiologists, that the muscular development, cardiac and otherwise, presents a great lack of uniformity in young pachyderms of the same age, and the same litter, than any other order of mammals.

The faults of digitalis, as before intimated, are usually those of the prescriber rather than such as may be attributed to the drug itself, for the latter requires to be studied anew in each case where it is administered, and its effects carefully watched and noted. In the lack of such precautions may be found a clew to the fact that in the same precise (as supposed) pathological conditions, the remedy is praised by a host of observers, and as vigorously condemned by an equal number of colleagues. Also, why the drug is lauded in the treatment of aneurism and as sedulously warned against; why it is both recommended and condemned in simple

cardiac hypertrophy and in aortic obstruction and aortic regurgitation; why one declares it tends to increase the elimination of urinary solids, and another that the salts under its use are materially lessened in quantity.

Of all the abuses of digitalis not one is so great, or so frequently and fatally detrimental, as that accruing to its use as an antipyretic. Why it should ever be prescribed as an antithermic purely is a matter of wonderment, considering there are so many agents of this class, agents the actions of which are definitely known, whose effects can be carefully gauged, and, moreover, afford positive assurance of a power to secure self-elimination without unduly taxing any vital organ or disordering physiological compensations. That the drug will powerfully affect febrile temperature is undisputed, and the measure of this temperature may, and is apt to be, the measure of its effect; but its antithermic action, at the same time, induces a rise of blood-pressure more or less proportionate, without any increase of elimination of morbid products. Is not fever itself a physiological process,—an attempt of nature to overcome toxic and effete materials,—and is not the sudden decline of temperature without provision for increased excretion and elimination a potent means of inducing auto-intoxication? In a patient with post-partum pyrexia noted by Fothergill, a temperature of 105° was promptly reduced by digitalis to 101° , yet the case steadily progressed to fatality, evidencing the fall was not due to any general improvement, but to the antithermic action of the drug *per se*. There was no increase of elimination, and no stimulation of the emunctories, and the morbid products remained unconsumed to poison the economy, and the ultimate result (which, unavoidable as it may have been, would have been ascribed to physical exhaustion) perhaps was accelerated, and doubtless due to resorption and general toxæmia.

Manifestly, then, digitalis is and must ever remain a misleading and dangerous remedy as regards pyrexias, especially those of septic character, if employed in a manner to secure its antithermic effects. During one year the writer witnessed the deaths of three patients suffering from simple remittent fever, all of which should, by every right, have recovered, and in each of whom the fatality was unmistakably referable to ignorant and injudicious use of digitalis as an antipyretic.

Another abuse of the drug is its general employment, *solus*, as a diuretic, as already referred to, without regard to the nature and character of the preparation. As before intimated, the glucosides of digitalis that alone are deemed to possess remedial virtues, are exceedingly unsafe to meddle with, more particularly owing to their precarious chemical composition. They are altogether too potent for careless or speculative use. The tincture alone is not even relatively diuretic except as it may act through a diseased heart and imperfect circulation, and the same is equally true of the fluid and solid extracts; and yet, paradoxical as it may seem,

the dry, powdered leaves are more apt to produce diuresis when given in conjunction (but not simultaneously) with alcoholic beverages, more especially when the latter are taken hot and greatly diluted. The true diuretic preparation, however, is the infusion, and here arises the very pertinent query as to how much this specific action is referable to the aqueous constituent; also whether the glucoside, digitonin, closely allied to scoparin, senegin, *et al.*, is not likewise a potent factor. Both undoubtedly should be considered, since the more active glucosides are little or not at all soluble in water; and the infusion is, moreover, in no sense antithermic, though it may sometimes relatively and reflexively induce some degree of antipyrexia; and it does not tend to increase general blood-pressure, while it does promote excretion and elimination and by the skin as well as through the kidneys.

But to be truly and effectively diuretic, digitalis infusion must be given in large doses, or its action reinforced by some other agent, the most effective for this purpose being cantharides, though broom, squill, or juniper usually receive preference; the ingestion of considerable quantities of fluid, also, is always desirable. Digitalis alone, in infusion, holds its own as a diuretic in Great Britain and in Europe, because it is seldom employed in the half-hearted, trembling way that generally obtains in the United States. Abroad it is customary to fairly drench the patient with a "tea" made with two handfuls of leaves and drank *ad libitum* until ultimate narcosis, vomiting, and purging supervene: "*Somerseti Angliæ rustica turba hujus decocto febriciantibus purgationes et interdum super purgationes et vomitiones humidioribus alvo molitur*" wrote Ray in 1686, and this is true even yet in many parts of England, Scotland, Ireland; and in the latter country many practitioners find an ounce of fresh digitalis-leaves, infused in a gill of water, and repeated as required, a most effective remedy for epilepsy.

One word more: it may not be generally known that when there is great tension of the parietes of a cavity containing serous fluid,—abdominal, pleural, or pericardial, for instance, owing to extreme accumulation,—that neither digitalis nor any other diuretic will be effective. Here it is necessary the tension be first relieved, either by the aid of hydragogue cathartics or by paracentesis, when the diuretic drug will act most favorably and tend to prevent further accumulation.

G. ARCHIE STOCKWELL.

Cyclopædia of Current Literature.

ACUTE OTITIS.

Etiology.—A young woman suffered congestion and sometimes inflammation of the middle ear that was intimately associated with the menstrual periods; with approach of each she would experience intense pain and throbbing in ears, especially at night. Once the attack was so severe that it was necessary to puncture the drum, which gave escape to purulent secretion. F. P. Hoover (Med. Record, Feb. 26, '98).

ADENOIDS, POST-NASAL.

Diagnosis.—The facial expression, to which little attention has been given apparently, is quite characteristic. The jaw usually becomes heavy in appearance; the cheek-bones lose their prominence; the bridge of the nose is broader and flatter; and there is a vacant idiotic stare. Also the eyebrows are arched; the forehead corrugated; the naso-labial groove obliterated.

Treatment.—Nothing short of removal should be for a moment considered. Eliot (Virginia Medical Semi-Monthly, Jan. 28, '98).

ANGINA PECTORIS.

Diagnosis.—In angina pectoris there is a special variety of musical heart-murmur. A man, aged 30 years, suffered from anginal attacks, and on auscultation a double aortic murmur could be heard, the diastolic part being musical, like the chirping of chickens. The apex-beat was in the fifth space and outside the nipple-line. No history of rheumatism, but he had been exposed to wet and cold; contracted syphilis at 21. Died in one of the attacks of angina.

Pathology.—Examination post-mortem discovered the mitral valves to be normal; the aortic valves thickened and stenosed, two cusps being adherent, and the third perforated near the aortic parietes, but not adherent. The aorta was atheromatous. Angina pectoris is probably a neuralgia of the cardiac plexus. Tecce (Brit. Med. Jour., vol. ii, '97; Indian Med. Record, Dec. 1, '97).

ANTITOXIN POISONING.

Five cubic centimetres (500 units) were given as a prophylactic to a patient. Five days later urticaria, accompanied by malaise and chilliness, was observed. The eruption soon extended all over the body. There were prostration, vomiting, and œdema of uvula and pharynx. After thirty-six hours the symptoms moderated, but by that time general glandular enlargement had developed which persisted for ten days. The same patient developed a transient urticaria two years previously after an injection of 7 cubic centimetres of serum. Morse (Boston Med. and Surg. Jour., Feb. 17; Philadelphia Med. Jour., Feb. 26, '98).

ARTERIOSCLEROSIS AND EPILEPSY.

In the first case reported the diagnosis seemed doubtful, as there was neither loss of consciousness nor convulsion. Another case presented only attacks like *petit mal*, while there were marked spasms in the two remaining. The patients were all above 70 years of age. None had any previous epileptic history, but all had arteriosclerosis, to which the attacks were attributed, senile epilepsy being regarded as closely related or identical with Stokes-Adams's disease, which is an affection of old per-

sons attended with coma, convulsions, and slow pulse. Allen (*Medical News*, March 5, '98).

CARCINOMA OF LIP.

Operation.—No operation can be considered complete until all dangerous foci are extirpated. Consequently the submaxillary and sublingual spaces should be thoroughly explored and all involved or suspicious lymphatic glands removed. J. C. Warren (*Boston Med. and Surg. Jour.*, Feb. 24, '98).

CARDIAC SARCOMA (PRIMARY).

Post-mortem.—Case of extensive sarcomatous infiltration of heart originating in the pericardium. Ten years previously the victim thereof had several ribs fractured in the vicinity of the pericardial region. The original diagnosis was mediastinal tumor, owing to huskiness of voice, slow pulse, dyspnoea (not dependent on hydrothorax), and peculiar cyanosis limited to areas drained by the superior vena cava and the azygos. At autopsy the pericardial sac was found tense and distended with blood-stained fluid; there were recent fibrinous deposits, and the whole internal surface of the sac covered with white nodules lying beneath the endothelial coat; aorta and vena cava much compressed. A like growth involved almost the entire wall of the left ventricle and extended to the border of the aortic valves. Both pneumogastrics were pressed upon by the pericardial nodules. The only other seat of malignant growth was the head of the pancreas, where a round nodule four centimetres in diameter existed. Under the microscope it was found that all the growths were small, round-celled sarcomata. Lambert (*N. Y. Med. Jour.*, Feb. 12, '98).

CHANCRE, EXTRAGENITAL.

Etiology.—Though the eyelids are seldom the seat of primary syphilitic infection, the inner canthus, in the case of a child 15 months old, was the seat of a lesion transmitted from mucous patches on the tongue of the male parent. The excessive induration that generally complicates cases of this character was not observed. Gagzow (*Deut. med. Woch.*, Feb. 10, '98).

A rare form of infection occurred in an adult male under treatment for nasal polypus, to which was applied a solid pencil of silver nitrate (lunar caustic). Soon after the cauterization a specific ulcer made its appearance that destroyed the tip, ala, and septum of nose and a portion of the upper lip. The diagnosis was based on the clinical picture, including, also, the rapidity with which resolution took place after specific treatment was begun. Burwinkel (*Deutsche med. Woch.*, Feb. 10, '98).

CHOREA.

Etiology.—From statistics it would appear that the disease occurs in those of neurotic heredity, who have recently suffered from infection of some kind. This infection is, in the majority of cases, rheumatism, but there are many instances of chorea arising from other conditions, more particularly various specific diseases, such as measles (with or without broncho-pneumonia), scarlet fever, typhoid, influenza, bronchitis, tuberculosis, and varicella. Even boils with marked glandular enlargement, impetiginous eruptions on the head, and suppurative otitis seem to be capable of producing chorea. Legay (*Thèse de Paris*, '97).

CONVULSIONS, INFANTILE.

Etiology.—Convulsions are most fre-

quent under 2 years. There are two periods of frequency: under 1 month and between 6 months and 2 years.

The nature of the nerve-reaction resulting in a convulsion is not understood, but it is probable that instability of nervous tissues at this period of life favors this reaction.

Convulsions are frequently observed in adult life, and result from auto-intoxications and other causes.

Convulsant substances may be introduced from without or generated within the economy. (a) Substances useful to the economy, if they accumulate, become harmful—for instance, water, carbonic acid, mineral substances, the salts of biliary acids, soluble ferments, toxins not ferments in saliva, alkaloids of secretion in urine; (b) infectious agents may elaborate toxins; (c) organisms constantly present in the economy under certain circumstances may become infectious agents.

The instability of all the organs and tissues of the infant economy makes auto-intoxication common.

Convulsions occurring in rachitis and diseases associated with great nutritional disorders, all forms of gastro-intestinal disorders, and the acute infectious fevers are most readily explained on the ground of auto-intoxication.

Convulsions resulting from marked disturbances in the respiratory and circulatory systems—as, for instance, asphyxia and hæmorrhage—are, in all probability, toxic.

The reflex origin of convulsions is probably not common. It should, however, be noted that when the so-called convulsive habit is established reflex disturbance may bring on a spasm. Sanger (*Med. Standard*, Jan., '98).

DILATATION OF STOMACH.

Diagnosis.—Referring to the extreme grades of dilatation in which a large part of the abdomen is filled, these dimensions are attained in the presence of pyloric obstruction, rarely carcinomatous. Obstruction due to carcinoma usually leads to death before extreme dilatation occurs. A lady of 35, not robust, but in good health, took some ice on an empty stomach at 5 P.M. on a hot afternoon, when fatigued. The evening of the following day she was seized with violent pain in the epigastrium and with tetany, involving mainly the hands; after taking brandy she vomited and became unconscious. After five days, during which milk was the sole diet, a little chicken was given, but tetany again occurred, which was relieved after vomiting provoked by hot water. In this case there was acute paralytic dilatation of the stomach.

Another case of apparent dilatation was a man of 50 in whom faintness and vomiting occurred near the end of a journey and after a heavy meal.

A symptom of dilatation little recognized and less spoken of is anginoid pain; this, when of gastric origin, is always due to dilatation or distension, and seems to be caused by pressure upon the heart; sometimes it is so severe as to be indistinguishable from true angina pectoris. The fact that the early attacks occur without the stimulus of exercise or excitement leads to recognition of the cause. Vertigo is a symptom of some importance; but there is not the sudden onset and apparent translation, horizontal or vertical, of external objects that is met with in auditory vertigo, and falling is rare; but the patient may be compelled to take hold of objects to avoid falling. Eructation usually relieves

this symptom. In diagnosis dependence is to be placed mainly upon percussion and auscultation and upon palpable and audible splashing of the gastric contents. Auscultatory percussion may be of assistance; but inconsistencies frequently appear in the physical examination, probably due to expulsion of portions of gas or shifting of the contents of the stomach, or the like. W. H. Broadbent (Practitioner, Jan., '98).

DYSTOCIA (UNUSUAL).

A woman, 26 years of age, was confined with her first child in 1896. After an unusually difficult version, the body was delivered, but not the head, which required the use of forceps. Subsequent examination showed that there was no contraction of pelvic diameters. At her second confinement the head did not engage and the pains were inefficient. Examination with the whole hand showed that the head was not impacted in the superior strait, and also that there was no disproportion between the foetus and pelvis. After the woman had been in the second stage for six hours, an attempt was made to deliver with forceps, but the head could not be brought further than the superior strait. It was then found that the neck of the child was so tightly grasped by an hour-glass contraction that version could not be performed until the head had been pushed up through the ring above. The child was delivered in a moribund condition, and weighed $8\frac{1}{4}$ pounds. McLean (Phila. Med. Jour., Mar. 12, '98).

ECHINOCOCCUS OF BOTH LUNGS.

Girl had signs of liver and pulmonary disease. The heart was much displaced to the right, and, when the mouth was opened, a buzzing noise was heard syn-

chronous with the cardiac sounds. On puncture of the left side of the thorax posteriorly, fluid containing hooklets was withdrawn. The seventh and eighth left ribs were resected behind, the costal and pulmonary layers of the pleura united by a circle of sutures, and the lung laid open within the circle. An hydatid as big as a normal human bladder was removed, lung immediately filling its place. At once the buzzing noise, caused by pressure of the cyst on the pericardium, disappeared. Six weeks later there was pricking pain and dullness at the right base. On puncture, hydatid fluid escaped; dyspnoea followed till the patient coughed up much hydatid fluid. Later on chronic broncho-pneumonia developed. On recovery it appeared that the echinococcus had atrophied and come away. The patient is now well. The right thorax, which had been treated by nothing more radical than puncture, was somewhat diminished in capacity, while the left, where resection and removal of the hydatid had been so successfully undertaken, remained of normal capacity. Steiner (Centralb. f. Chir., No. 1, '98).

ECLAMPSIA.

Pathology.—A study of 500 cases shows that hæmorrhage is the distinguishing feature of the changes found in the various organs, and that among the complications broncho-pneumonia and cerebral hæmorrhage are the principal causes of death. Bacteriological investigation results negatively except in mixed infection. Chemical investigation of the blood and of the toxicity of the urine and serum is still in the preliminary stages, and the present knowledge of eclampsia does not justify sweeping conclusions in regard to its

etiology. In 368 cases only 7 had sound kidneys; there was nephritis in 46 per cent.; chronic inflammatory processes in 11.6 per cent. Changes in the liver, mostly hæmorrhagic, were noted in 213 cases. Hæmorrhage into the brain was noted in 28.4 per cent.; intracranial hæmorrhage in 35.3 per cent. The stomach, intestines, spleen, pancreas, suprarenals, and genitalia are also frequently found to have been the seat of hæmorrhage, and even the skin, mucous membrane, muscles, serous surfaces, and thyroid gland. Prutz (*Deutsche med. Woch.*, Dec., '97).

EMBALMING CRUSHED MEMBERS.

A woman, eight and a half months pregnant, had her hand crushed in machinery. For several days the hand was plunged for hours at a time in phenicated and disinfected hot water. Then a few whiffs of chloroform were given and the toilet of the hand accomplished with quantities of very hot water and solutions of sublimate and potassium permanganate, removing the loose projecting fragments of bone. Small squares of soft gauze impregnated with a polyantiseptic salve were carefully fitted into every crevice, covering the hand entirely, and the dressing completed with a thick layer of cotton and a tight, compressing bandage outside of all to secure anastomosis of the vessels. She then left for a maternity, where she underwent a normal confinement. The embalming dressings were not touched for three weeks, and, when removed, under a thick layer of a foetid, chocolate-colored fluid, the wounded surface was found covered with healthy granulations, with the necrosed parts entirely eliminated. An autoplasmic operation was performed a week later, which

healed rapidly. (*Jour. des Scien. Méd. de Lille*, Dec. 25, '97).

EMPHYEMA OF FRONTAL SINUS.

Treatment.—This seems to be an occasional sequel to attacks of influenza. Several incisions have been proposed for the purpose of emptying the cavity: one along the lower border of the supra-orbital ridge, after pulling the integument forcibly upon the forehead, or this incision may be joined by one perpendicular to it along the base of the nose; or an incision may be made in the median line, $1\frac{1}{2}$ inches from the base of the nose. The skin and the periosteum are then elevated; the sinus opened with a trephine, drill, or chisel; polypoid or necrotic tissue removed and the cavity thoroughly cleansed; the fronto-nasal duct may be enlarged by passing a trocar from the sinus into the nose, and a self-retaining drainage-tube inserted. The cavity is then kept free from secretions by irrigation with a mild, antiseptic solution. Bryan (*Jour. Amer. Med. Assoc.*, Feb. 26, '98).

EPILEPSY.

Pathology.—Recent experimental observations prove that the fits in cases of idiopathic epilepsy are preceded and accompanied by greatly increased toxicity of the blood, urine, and gastric juice. Therapeutic measures—such as the free use of purgatives, diuretics, and intestinal antiseptics, washing out of the stomach, etc.—have been advocated with a view to the prevention of the formation or accumulation of toxins in the body in such cases. The sweat of epileptics increases in toxicity about the time of the fits. Sweat for experiments was obtained by placing patients in a hot-air bath, and the results sug-

gested the use of the baths as a therapeutic agent, with a view to elimination of the toxins by way of the skin.

Treatment.—The baths were given an extensive trial, and the results evidenced that they afford an excellent means of preventing and interrupting epileptic attacks. They should be employed whenever the prodromal symptoms manifest themselves. The beneficial effects are not merely transitory; and the baths exert upon other organs, in addition to the cutaneous glands, an influence which causes them to eliminate the poison more rapidly. Cabitto (*Rev. Speri. Freniat. e di Med.*, Dec., '97).

A boy, 10 years old, suffered severely with epilepsy for two years: had from fifteen to twenty seizures each day; mind enfeebled; muscular paralysis. He was given from 5 to 7 tablespoonfuls daily of a mixture containing 60 grains of potassium bromide and 6 grains of codeine in 45 drachms of infusion of false hellebore (*adonis vernalis*); in a few weeks the amount of *adonis* taken was doubled. The attacks diminished in number and severity, and finally ceased altogether. His mental and bodily condition became normal again. Tekoutief (*Jour. de Méd. de Paris*, Feb. 6, '98).

FAT-NECROSIS.

Etiology.—A case was suspected during life as being one of fat-necrosis because of the presence of meteorism and pain on pressure over the abdomen, and the absence of vomiting, hiccough, and fever. After death the pancreas was found necrotic and hæmorrhagic. The pancreatic changes were primary, and not the results of peripancreatic fat-necrosis. In a case of gunshot injury of the abdomen celiotomy was performed

to control hæmorrhage and the peritoneum was found to be normal. Death occurred thirty-six hours later, and extensive fat-necrosis was found to exist throughout the peritoneal cavity. The bullet had pierced the pancreas and had caused extensive destruction of its tissue. A variety of bacteria were found upon the peritoneal surface, but the autopsy was performed some time after death. The parenchymatous changes in other organs pointed to an infectious process. Simmonds (*Munch. med. Woch.*, Feb. 8, '98).

FRACTURE OF TRACHEA.

A man, aged 46, received a slight blow on front of throat. Felt some pain, but took no further notice of it, though the following day there was some swelling. Ten days later he had a shivering and increased pain. Twelve days after the accident he was lying on his back, breathing rapidly, and somewhat cyanotic; had a handkerchief tied around his head, and when asked to raise himself up took the handkerchief in one hand and raised his head, while he raised his body with the other. He had great difficulty in swallowing. The whole of the front of the neck was swollen from the clavicles to the angles of the jaws; skin was bright red over the neck and upper part of the chest.

There was a rounded swelling, about two inches in diameter, just below the level of the thyroid cartilage, which evidently contained air. Fluctuation could be detected below the angle of the jaw on the right side, and on the left side in front of the sterno-mastoid, about the level of the thyroid cartilage.

An incision was made into the swelling, in front of the trachea, and air and very foetid pus escaped; then a drainage-

tube inserted in the subcutaneous tissue up to the angle of the jaw, when another large quantity of pus escaped. On the third day after operation large sloughs of subcutaneous tissue came away, and the temperature fell to normal. Healing was now rapid.

The interesting point is the slight degree of violence which caused the fracture, which, perhaps, may be accounted for by calcification of the rings having occurred. It was only after careful inquiry that any history of a blow was obtained. Park (*Austral. Med. Gaz.*, Oct. 20, '97).

GANGLION.

Treatment.—Unsatisfactory results often follow attempts at treatment of this simple, but troublesome, affection of the wrist; but the following is usually attended with excellent results: The affected part is first thoroughly cleansed, then 4 drops of undiluted tincture of iodine injected into the cyst by means of an hypodermic syringe; next, a pad of wool is placed over the swelling, and pressure exercised upon it by means of a roller bandage. The dressing is taken off at the end of four days, and the operation repeated if necessary. The cyst nearly always disappears after the second injection, but if it does not the ganglion should be excised. The injection of iodine cures without leaving any scar, without causing any deformity, without material pain, and without suppuration. Lacourt (*Thèse de Paris*, Feb., '97).

GASTRIC ULCER.

Treatment.—Rest in bed; Carlsbad water; poultices very hot and changed every ten minutes. After five days substitute Priessnitz bandages for poultices. Strict regulation of diet.

Surgical treatment should be resorted

to: When there are repeated hæmorrhages that make the patient anæmic; when long-continued medical treatment has proved ineffective; when there is perigastritis caused by adhesion of stomach to other organs, especially when a subphrenic abscess has formed; when there is perforation and an opening into the abdominal cavity. Von Leube (*Med. Rec.*, Jan. 15, '98).

HÆMORRHOIDS.

Operative Treatment.—The objections to the clamp-and-cautery method are: danger of hæmorrhage; delayed recovery, the healing of ulcers caused by the cautery requiring a longer time than when the ligature is used; tendency to prolapse; danger of producing more or less permanent stricture. The Whitehead operation cannot be approved.

The Allingham operation is always preferable, and, if the anal sphincter is thoroughly dilated during the procedure (and it should be, so as to paralyze it for about a week), the last objection to this method disappears. Another important point is to thoroughly cut through the mucous membrane at the base of each hæmorrhoidal tumor before tying it off. The Allingham operation is simple in every way to perform; there is never any serious hæmorrhage; little, if any, pain; finally, the results obtained are fully as good as those from clamp and cautery, if not better. Alexander (*N. Y. Med. Jour.*, Feb. 12, '98).

HAIR, FUNCTIONS OF.

Study of the descent of man and of embryology shows that our ancestors were entirely covered with hair, as are the anthropoid apes. According to Darwin, the gradual disappearance is due to repulsion felt by women toward hairy men; that is, to sexual selection.

The hairs are modified sense-organs that have lost all connections with the nerves. It is probable that in primitive man the distribution upon the body was irregular, and that the length, color, structure, and thickness varied with functions. That left upon the body in the process of evolution has a definite purpose. Certain hairs serve as organs of touch, notably the eyelashes, the bulbs of which are surrounded by a network of nerve-fibres, and in a less degree the hairs of the eyebrows; both serve to protect the eyes, for, being sensitive, they give warning of danger, so that reflex closure of the lids is produced; the eyebrows also prevent drops of sweat from running into the eyes, while the eyelashes keep out the dust. The down which covers the body is also endowed with tactile sense, the hair in the region of the genitals and anus being the least sensitive. A thick growth of hair is also found in those parts of the body where friction must take place between contiguous cutaneous surfaces, as in the axillæ, groin, and perineo-scrotal and perineo-vulvar regions. A hairy covering markedly diminishes the friction of cutaneous surfaces.

In animals the hair serves to maintain and regulate the heat of the body, but in man that of the scalp alone serves this purpose. Hair is itself a poor conductor of heat, and retains air—also a poor conductor—in its interstices. Exner (*Wien. klin. Woch.*; *Canada Lancet*, Mar., '98).

HYPNOTICS.

Comparisons.—Chloral is the most popular hypnotic and the one which most frequently gives rise to habit. A safe derivative of this drug is chloralamid, inasmuch as the amide radical neu-

tralizes, to a considerable extent, the depressing action on the heart; and, as it is slowly soluble, its action is more prolonged. If chloralamid habit is formed, it is comparatively easily cured.

The most potent hypnotic is, perhaps, paraldehyde. Chloralamid ranks second, pellotin third, and trional last. Sleep follows most quickly after pellotin, next after paraldehyde, then after chloralamid, and lastly after trional. With moderate doses the longest sleep is obtained from trional; next comes paraldehyde, then pellotin, and, lastly, chloralamid. The danger of a habit from pellotin is extremely slight; it is a little greater from chloralamid; there is very great danger from paraldehyde. Chloralamid is the safest of all, next comes pellotin; then paraldehyde; the most dangerous for continuous administration is trional. Wilcox (*Post-Grad.*, Nov., '97).

INFLUENZA.

Treatment.—Calomel is an exceedingly useful drug in the early stages of an attack of influenza, if given in doses of 2 grains twice daily to adults or 1 grain three or four times a day. In infants smaller doses should be given according to age. The effects of this method are remarkable. In a few hours are obtained a great fall of temperature, disappearance of the neuralgic pains, and increase of appetite. The advantage of this treatment is that it is inoffensive and admits of general employment. A cure can usually be produced by the third day. Frudenthal (*Therapeutische Monatshefte*, Oct., '97).

KIDNEY RESECTION.

Resection of kidney should always be as conservative an operation as it can

possibly be made, and partial excision should always be preferred to total unless the latter is absolutely imperative. The operation has been performed but comparatively a few times, and is dreaded by surgeons because of the dangers of hæmorrhage from the wound, and of formation of ureteric fistulæ.

A boy, 13 years of age, entered the Royal Frederick Hospital, complaining of pain near the curvature of the lower ribs on right side. Some months previous he had suffered an attack of hæmaturia, which, however, disappeared the following day, only to reappear after a time whenever he indulged in overexertion. For three months previous to his entering the hospital there had been only brief intervals when he was free from pain and hæmaturia.

No distinct tumor could be found, but the real trouble was suspected because of the firm resistance found in the right lumbar region. His urine was sanguinolent and contained both red and white blood-corpuscles, and once hyaline casts were observed. No fever. No trace of stone could be found either by palpation or needle exploration. An operation for removal was finally decided upon. All that portion of the kidneys lying below the hilus was swollen, and consequently extirpated; all the lower two-thirds of the organ was removed by the usual common incision along the convex border, then a transverse one, the latter involving healthy tissue; sutures of the renal substance and of the capsule were made separately. Six weeks after operation the wound closed, urine was normal, and patient feeling well. Nine months after operation he appeared in perfect health. The tumor was an adenosarcoma. Bloch (*Hospitalstidende*, No. 797).

LARYNGEAL OCCLUSION (SPASMODIC).

Etiology.—Spasmodic closure of the larynx in the adult is usually a reflex symptom of some remote nerve-lesion that induces paralysis of the abductor muscles. The attacks are sudden and transient, nearly always preceded by discharge of frothy mucus, and are not followed by pain or other unpleasant sensation. The victim is seized with sudden violent coughing that almost amounts to strangling, grasps some convenient object, falls, and loses consciousness for a few seconds; the loss of consciousness appears to closely resemble that which accrues to the inhalation of nitrous oxide. About thirty cases of this kind are reported in medical literature, and in one seen by the writer the seizure appeared to be of the nature of *petit mal*. Stillson (*Jour. Amer. Med. Assoc.*, Feb. 26, '98).

MÉNIÈRE'S DISEASE.

Etiology.—Ménière's disease is supposed to arise from lesions restricted to the semicircular canals. Cases are reported, however, in which the canals were absent, and Ménière's malady occurred, and, again, where the canals were filled with blood without any evidences of faintness, vertigo, or deafness. Also chronic catarrhal conditions of the middle ear, lesions of the brain and its membranes, organic changes in the perceptive mechanism, circulatory disturbances, certain diatheses, etc., have been thought to be the cause of the symptoms.

Treatment.—Rest in bed, restricted diet, attention to the excretory functions, and the administration of bromides usually prove effectual. In gouty or rheumatic cases the salicylates, or salts of lithium, with potassium and

colchicum are to be recommended. Bleeding may be called for in cases of apoplectiform character, with a full, tense pulse. Probably the disease is more frequent than is generally believed, and many of the milder forms are ascribed to cerebral troubles or to gastric or visceral disturbances. Brown and Daland (*Jour. Amer. Med. Assoc.*, Feb. 26, '98).

NASAL FRACTURES.

Fractures involving the inferior turbinate are rare. In two children—aged, respectively, 10 and 4 years—the nasal process of the superior maxilla was the point injured and presumably fractured. In the elder patient sequestration occurred, and two weeks later the greater part of the inferior turbinate also came away as a sequestrum. In the second case there was considerable swelling, but fracture of the nasal process was not actually made out; the injury was followed by purulent rhinitis, and not until two years had passed was the cause of this condition found to depend on the presence of a necrosed and sequestered inferior turbinate. Garel (*Ann. des Mal. de l'Oreille*, Oct., '97).

OCCCLUSION OF POSTERIOR NARES (COMPLETE).

But twenty-one cases have been reported in medical literature previous to the following: The patient presented the typical "adenoid face" and was much troubled with dryness of the mouth; the sense of smell was entirely absent and that of taste very much obtunded. At the operation the occluding walls were found to be composed of bone, varying in thickness from 2 to 9 millimetres; the occlusion was overcome by drilling through the bony wall with a trephine.

While most of the symptoms due to nasal obstruction disappeared after the operation, the sense of smell was in nowise affected. Clark (*Boston Med. and Surg. Jour.*, Feb. 24, '98).

OTOMYASTHENIA.

Diagnosis.—The debilitated condition of the muscles of the ear often prevents many persons from selecting and amplifying sounds correctly and naturally. When a subject is thus otomyasthenic, the diagnosis is readily made through the fact that he is able to hear distinctly one person when talking alone, but when a number are conversing the sounds are not differentiated; only a confused mumbling is recognized. Rumbold (*Cincinnati Lancet-Clinic*, Jan. 8, '98).

PICRIC-ACID POISONING.

Two children, one 11 years old, one 4, had burns dressed with compresses dipped in picric-acid solution. There was great pain for half an hour. Five days later, on second dressing, the local condition was good, but the pains recurred, and the solution was substituted by a 10-per-cent. ointment of picric acid: an amount sufficient to contain 300 grains of acid was used on each child. There was severe smarting, and at the end of twenty-four hours vomiting set in and lasted an entire day, with colic, diarrhoea, an intense yellow coloration of the skin, somnolence, prostration, and scanty, dark-colored urine. A second application of the ointment was made, and the vomiting reappeared, to subside only on the removal of the dressing. Walther (*Gaz. Hebdom. de Méd. et de Chir.*, Jan. 27, '98).

PLAGUE.

Characteristics.—During the stage of invasion there is often a semi-intoxicated

condition much like the language-clipping stage of alcoholism. There is nothing to suggest the term "black death," unless it is a tendency to ecchymoses and the black or "plague spots" that arise from the bites of insects. There are few cases in which there is not an initial bubo, and such are often termed pneumonic, though there may not be any important involvement of the lungs. Thick, grayish, tenacious pus is characteristic of the buboes.

Infection.—Local inoculation oftentimes, doubtless, accounts for the situation of suppurating glands (buboes), and the peculiar habit of putting all sorts of articles in the mouth probably explains the frequent involvement of cervical glands in children. Arnold (Phila. Polyclinic, Jan. 8, 15, '98).

PROSTATIC ENLARGEMENT.

Treatment.—A youth, aged 19 years, of neurotic temperament, complained of pains in the perineum. On examination the prostate was felt as large as a bantam's egg. He denied masturbation. After being treated for some time without benefit, he was given thyroid tablets thrice daily, with the result that the enlargement entirely subsided and his neurotic symptoms were considerably reduced. Stretton (Birmingham Med. Review, Mar., '98).

QUININE IN MALARIA.

Quinine is a specific against the protozoön of tertian or quartan malaria.

It inhibits, for a time, the development of the protozoön of pernicious malaria, but does not kill it; nor does it, even when constantly taken, prevent its development every time the patient catches cold or is exposed to a particularly severe contagion.

Quinine alone has no action on the toxin produced by grave malaria over which calomel has twice the potency (at least in full physiological doses).

Even as a prophylactic quinine cannot be indefinitely taken.

It has no effect whatsoever on malarial anæmia (really a chronic toxæmia).

As a preventive, quinine will not do for those who are compelled to live indefinitely in a severe malarial climate; in time it will act as a vasomotor poison.

It acts nearly as a specific in all malarial fevers characterized by intermissions or well marked remissions, but fails in the continued fevers, those with typhoid-like symptoms, those malarias without temperature, and the cachexias and anæmias due to malaria.

Thus quinine is a poison to the plasmodium itself, but useless against the toxin manufactured by it.

Warburg's tincture, in the last condition, has an action not yet understood on the toxin (or the eliminative system), by which the system is put in condition to benefit by quinine.

Quinine should never be used in hæmoglobinuria, or given subsequently to one who has suffered from it,—being liable to bring about a recurrence of the condition.

Only those living in regions of severe malarias can become competent to settle these questions *pro* or *con*. Van Marter (Va. Med. Semi-Mo., Feb. 1, '98).

SCROTAL PRURITUS.

Treatment.—Take twice daily a medium dose of quinine with sodium bicarbonate; also bathe the parts three or four times during the twenty-four hours with a lotion made by adding, to a glass of hot water, 1 to 4 tablespoonfuls of the following:—

SEWER-GAS AND BACILLI.

℞ Carbolic acid, 5 drachms.
Glycerin, 28 drachms.
Alcohol (60°), 6 drachms.
Water, 10 ounces.

This will be found very effective. Brocq (Med. Press and Circular; Med. and Surg. Reporter, Mar. 12, '98).

SEWER-GAS AND BACILLI.

It has frequently been surmised that the inhalation of sewer-air determines the occurrence of diphtheria, although diphtheritic bacilli cannot be conveyed in this medium, since they are not disengaged by evaporation from the fluids in which they are grown. It is possible that a non-virulent diphtheria bacillus such as is present in the throats of many persons may, in consequence of the inhalation of sewer-air, become virulent and give rise to diphtheria in the throat. In order to determine this point non-virulent diphtheritic bacilli were grown in Duclaux flasks in broth, and over the surface of the medium sewer-air was continuously and slowly drawn by means of a water-pump. The only noticeable effect was a retardation of the growth of the bacilli. Their virulence was not increased, as was proven by subcutaneous injections in guinea-pigs. These results are interesting, although they do not exhaust the question. Shattock (Med. News, Jan. 22, '98).

SUPPURATIVE OTITIS.

Treatment.—A saturated solution of picric acid (1 to 87) affords most satisfactory results in the majority of forms of suppuration of the middle ear. Picric acid is not only a good antiseptic and mild analgesic, but it favors epidermization in a marked degree. A good formula is

ULCER OF STOMACH AND CLIMATE. 119

℞ Picric acid, 3 grains.
Alcohol (90°), 45 minims.
Distilled water, 5 drachms.

Twenty minims may be instilled, warm, night and morning, and permitted to remain for five minutes. The mucosa is found to be covered with epidermic *débris* after use of the foregoing, and copious irrigation is necessary to cleanse the ear. The solution should be applied daily in order to prevent accumulations of coagulated albumin. Usually the application of the solution causes the discharge to cease in a few days, and perforations readily heal, but in chronic cases complicated with caries, though the results are good, the treatment requires to be prolonged. It is inadmissible where there is acute inflammation or an eczematous condition of the meatus, and also (owing to its tendency to promote desquamation and hardening of *débris*) where cholesteatoma is to be feared.

It is unfortunate that the acid stains the skin a bright yellow, but this stain is easily removed by a saturated solution of carbonate of lithia. Lacroix (Arch. Internat. de Laryng., de Rhinol., et d'Otol., '97).

ULCER OF THE STOMACH AND CLIMATE.

Ulcer of stomach is exceedingly rare in either males or females in India. Although anæmia and disorders of digestion are very common among native females throughout the Hindoostani Peninsula, the rarity of stomach ulcer, as compared with its frequency in England, is both surprising and interesting. Hatch (Indian Med. Record, Dec. 1, '97).

New Books Received.

The editor acknowledges, with thanks, the receipt of the following books:—

Transactions of the Nineteenth Annual Meeting of the American Laryngological Association. D. Appleton & Co., 1898.—About Children: Six Lectures Given to the Nurses in the Training-school of the Cleveland General Hospital in February, 1896. By Samuel W. Kelley, M.D. Cleveland: Medical Gazette Publishing Co., 1897.—Health of Body and Mind: Some Practical Suggestions of How to Improve Both by Physical and Mental Culture. By T. W. Topham, M.D. Brooklyn-New York: Eagle Press, Publishers, 1897.—Principles of Medicine: Designed for Use as a Text-book in Medical Colleges and for Consideration by Practitioners Generally. By Charles S. Mack, M.D. Chicago: W. T. Keener Co., Publishers, 1897.

Monographs Received.

The editor acknowledges, with thanks, the receipt of the following monographs:—

The Treatment of Malaria. By Judson Daland, M.D., Philadelphia.—The Nature of the Leucocytosis Produced by Nucleinic Acid: A Preliminary Experimental Study. By Delano Ames, A.B., M.D., and A. A. Huntley, M.D., Baltimore, 1897.—Appendicitis. By William B. Van Lennep, A.M., M.D., Philadelphia, 1897.—The Co-existence of Typhoid and Malarial Infection. By J. M. Da Costa, M.D., LL.D., Philadelphia.—Appendicitis—Report of Four Cases. By Merrill Ricketts, Ph.B., M.D., Cincinnati, 1897.—The Origin of Corpora Amylacea in the Prostate Gland. By J. R. Eastman, B.Sc., M.D., Indianapolis, 1896.—Diagnosis by Inspection in the Urinary Tract. By J. R. Eastman, B.Sc., M.D., Indianapolis, 1897.—Primary Sarcoma of the Iris. A Statistical Study, with the Report of an Additional Case, in which the Growth was Successfully Removed by Iridectomy. By C. A. Veasey, A.M., M.D., Philadelphia, 1897.—Deficient Excretion from Kidneys not Organically Diseased and Some of the Diseases Peculiar to Women, and Diseases of the Skin. By L. D. Bulkley, A.M., M.D., New York, 1898.—The Action of the Nervous System over the Nutritive Processes, in Health and Disease. By B. O. Kinnear, M.D., New York, 1897.—Neurasthenia or Neuro-sthenia: Which? And an Efficient Treatment. By B. O. Kinnear, M.D., New York, 1897.—The Feasibility of Controlling Pernicious Vomiting by Means of Intubation of the Larynx with a Specially Adapted Tube. Charles Lyman Greene, M.D., St. Paul, 1897.—A Note on the Use of de Zeng's Refractometer. By S. L. Ziegler, M.D., Philadelphia, 1897.—On the Use of Stethoscopic Pressure in Physical Examination of the Heart. By H. Sewall, Ph.D., M.D., Denver, 1897.—Guaiacol as a Local Anæsthetic in Minor Operations on the Nose and Throat. By J. E. Newcomb, M.D., New York, 1897.—Some Cases of Feigned Eruptions. By F. J. Shepherd, M.D., C.M., 1897.—A Distinguished Physician-Pharmacist—His Great Discovery, Ether-Anæsthesia. By Joseph Jacobs, Atlanta, 1897.—Regulations Concerning Cattle Transportation. U. S. Department of Agriculture, Washington, D. C., 1898.—Meadows and Pastures. U. S. Department of Agriculture, Washington, D. C., 1897.—Proceedings and Addresses at a Sanitary Convention held at Hanover, Mich., June 3 and 4, 1897.—The Etiology and Pathology of Typhoid Fever. By H. B. Baker, Lansing, Mich., 1896.—Proceedings and Addresses of the Annual Conference of the Health Officers in Michigan. Ann Arbor, July 16 and 17, 1896.—Urate Disease. T. D. Myers, M.D., Philadelphia, 1897.—Ein Fall von Adeno-Carcinoma der Nase. Von F. E. Hopkins, M.D., 1897.

[End of the Editorial Department of the Monthly Cyclopædia for March, 1898.]

THE MONTHLY CYCLOPÆDIA

OF PRACTICAL MEDICINE.

Vol. XII.
Old Series.

PHILADELPHIA, APRIL, 1898.

Vol. I. No. 4.
New Series.

TABLE OF CONTENTS.

	PAGE		PAGE		PAGE
ABDOMEN, RARE PENETRATING		EUSTACHIAN INFLAMMATION	150	PERITONITIS, CAUSE OF DEATH IN	
WOUND OF.....	147	Etiology, Kyle.....	150	Wilson.....	156
AMBLYOPIA, RARE. Campbell.....	147	Symptoms and Diagnosis, Kyle.....	150	PERTUSSIS	156
BRISERI	148	Treatment, Kyle.....	151	Treatment, Chateaubourg.....	156
Pathology, Nerven.....	148	XOPHTHALMIC GOITRE	151	POTT'S DISEASE OF SPINE	156
ELPHARITIS	148	Pathology, Edmunds.....	151	Treatment, A. H. Trebbi.....	156
Treatment, Page.....	148	Symptoms, Page.....	151	RHEUMATISM, ACUTE ARTICULAR.	
ORCHIDOMYX , Guth.....	148	Treatment, Page, Jonnesco, Faure,	151	Lemoine.....	156
CHOREA	121	Abadie.....	151	RIGHT- AND LEFT-HANDEDNESS	157
Adults Chorea, Fackiana, Collins,		GASTRIC ULCER	152	Physiology, George M. Kellogg.....	157
Kraft-Ebing, Bonduraat, Stanley,		Treatment, Dreschfeld.....	152	SCARLATINA	156
Riseman.....	125	GENU RECURVATUM	152	Complications, Rotch Dittmar, Alex-	
Etiology, Siskler, Rayerson, Tomp-		Etiology, Marchant.....	152	Jeff, Symes, Seitz, Littlewood,	
kina, Legay, Simon, Marfan, Kraft-		Pathology, Marchant.....	152	Goodall.....	159
Ebing, Quok, Meyer, Napier, Cor-		Treatment, Marchant.....	152	Diagnosis, Lindsay, Rotch, Lemoine.	157
nell, Priestley, Churton, Sanson,		GONORRHEAL ARTERITIS	152	Infection, Ingersles, Klein, Grasset,	
Bishop, Dakin, Mosler, Massalonge,		Treatment, Maragliano.....	152	Rotch, Seitz, Cox.....	156
Mei, Burr, London.....	122	HEMATOMA OF VULVA. Wetter-		Prophylaxis, Cox.....	157
Symptoms, Monroe, Sheffield.....	121	gra.....	153	Recurrence, Drake, Millard.....	142
Treatment, Overend, Grancher, Mar-		HYDROCKLE	153	Scarlatinal Nephritis, Kontrebinsky	145
fan, Rensl, Spiller, Siskler, Tomp-		Treatment, Block, Etienne, Martin.....	153	Symptoms, Meyers, Fussell.....	158
kina, Lewis, Collier, Kraft-Ebing,		HYDROPHOBIA—RABIES	154	Treatment, Huber and Blumenthal,	
Bishop, Marfan, Simon, Rodman,		Prophylaxis, G. Archie Stockwell,		Gordon, Roger, Rappapart, Seitz,	
Adams.....	127	Law, Smith, Dulles.....	154	Rotch, Pujador, Wieglesworth, Al-	
COCAINE POISONING	148	HYSTEROTOMY, SPRINTERIO. De-		faro.....	142
Symptoms, Palmer.....	148	fontaine.....	153	SEKILE GANGRENE	157
Treatment, Palmer.....	148	ILEUS, COMBINED	154	Treatment, Jones.....	157
GENITAL ULCERS	149	Pathology, Hoehsberg.....	154	SPERMATIC CORD, SPONTANEOUS	
Treatment, Hansell.....	149	INTESTINAL INVAGINATION OF IN-		TORSION OF. Barossi.....	157
CORYZA OF CHILDREN	149	PANTS	154	SUPPURATIVE INFLAMMATION. Ge-	
Treatment, Nagell-Akerblom.....	149	Treatment, Cordua.....	154	brzensky.....	157
CRUSTA LACTEA	149	KIDNEY, EFFECT OF PEPTONES AND		TACHYCARDIA	158
Treatment, Kistler.....	149	ALBUMENES ON	154	Etiology, Curdin.....	158
DYSMENORRHEA	129	Pathology, Thompson.....	154	TONSILLITIS, ACUTE	145
Etiology, Parsons, Williams, de Leon,		LARYNX, CHRONIC STENOSIS OF	155	Etiology, Taylor.....	145
Treatment, Cameron, Martin, Will-		Etiology, Kjeer.....	155	Treatment, Taylor, Kramer.....	145
iams, Routh, Lyott, Fenwick,		Treatment, Kjeer.....	155	UTERUS, RUPTURE OF. Donald, Met-	
Dyore, Kerr, Connell, Purslow, Ca-		LEUKEMIA	155	call.....	146
dell, Langstaff, de Leon.....	130	Pathology, Nonne.....	155	VOMITING, INTRACTABLE. Thomp-	
BOZEMA	149	LUPUS	155	son, Greene.....	146
Treatment, Jaquet, Daresac, Block.....	149	Treatment, Asaelberg.....	155	REVIEW	158
EMETICS. Robin.....	150	MIGRAINE	155	Traitement des Fractures par le	
ENURESIS	150	Etiology, Barnes.....	155	Massage et la Mobilisation, le Dr.	
Treatment, Nason.....	150	Pathology, Barnes.....	155	J. Lucas-Championniere.....	158
EPILEPSY	153	Symptoms, Barnes.....	155	MONOGRAPHS RECEIVED	159
Treatment, C. B. Stockwell.....	153	NEAVE-SUTURE. Seck and Saenger.....	156		

Cyclopædia of the Year's literature.

CHOREA.

Symptoms.—Monroe¹ finds that involuntary movement, muscular weakness, and muscular rigidity are three symptoms belonging to the group that depends on impaired functional integrity of the upper segment of the motor path. They are found in two diseases which

are due, not to structural, but to functional or, perhaps, rather nutritional changes in the cortex, viz.: paralysis agitans and chorea, which have a certain kinship to one another, the former being commonly hemiplegic in its mode of commencement and extension, while

¹ Glasgow Med. Jour., Feb., '97.

the other is frequently hemiplegic in its distribution throughout its entire course. In the case of chorea the abnormal movements are so obtrusive in comparison with the others that there is danger of the latter being overlooked, although weakness, at any rate, is now generally known as a frequent symptom. In exceptional instances weakness may be practically the only symptom, and the diagnosis may then be somewhat difficult. The age of the patient, the limitation of the weakness to one arm, and the occasional manifestation of slight choreic movements in the affected limb or in other parts may furnish the necessary clue.

Sheffield¹ describes a very acute attack of chorea in a girl of 10, in which—in addition to severe movements of the head, neck, and arms, and sometimes of the trunk and lower extremities—the ciliary muscles were affected. The pupils dilated and contracted repeatedly each minute, from the size of a pin-head until the iris was almost invisible.

Etiology.—Sinkler² concludes that the majority of cases depend upon some distinct and positive cause which careful investigation will usually discover. It is essential, therefore, in every case to determine the existence of a cause, and to take measures for its removal.

Reyerson,³ calling attention to the fact that headache arises oftentimes from errors of refraction and muscular insufficiency, suggests that it is only a step farther to admit that severe manifestations of nerve disorder, including chorea, may be caused by the same irritation. His contention is, in a measure, substantiated by the fact that one case that came under his own observation exhibited $3\frac{1}{2}^{\circ}$ of right hyperphoria, and which recovered after partial tenotomy of the right superior rectus.

Tompkins,⁴ noting that most authors designate fright or some of the emotions as the chief exciting cause, insists that the predisposed chorea is usually started by some reflex irritation, such as eye-strain, nasal irritation, tight prepuce, a bound-down clitoris, or lumbricoid worms; and secondary attacks may not always be true chorea. Likewise he pertinently divides chorea into two classes: those that tend to get well under almost any or even without treatment, and those who fail to get relief from any medicine. Both are based, as a rule, upon a well-marked neuropathic or tubercular predisposition. The percentage of hypermetropia, usually latent, he believes is extremely large, apparently about 70 per cent.; and an investigation for latent heterophoria should always be made, in choreic subjects, with the greatest care and patience. Finally, he notes that the spasmodic movements which accompany and indicate organic lesions of the brain—as, for example, those of leptomeningitis—exist in but a small proportion of choreic subjects, and are usually associated with other evidences of disease.

Legay⁵ affords some interesting statistics relative to the origin of chorea, which he believes occurs only in those possessed of neurotic heredity with almost always a recent infection. This infection in the majority of cases is rheumatism, but there are many instances of the disease arising from other conditions, more particularly those of specific character.

Simon,⁶ while noting the fact that chorea is much more frequent in girls

¹ Amer. Medico-Surg. Bull., Nov. 14, '97.

² Amer. Jour. Med. Sciences, May, '97.

³ Canadian Prac., Jan., '97.

⁴ Amer. Jour. Obst., Mar., '97.

⁵ Thèse de Paris, '97.

⁶ Med. Press and Circular, Apr. 7, '97.

than in boys, and that this is one of the arguments invoked in favor of the nervous nature of the malady, believes it is nothing else but one of the numerous manifestations of rheumatism for the following reasons: It affects the same geographic distribution; like rheumatism, it is most frequent in cold countries; it shows its preference for damp seasons; besides, if choreic patients are examined with care, it will be found that cardiac affections are frequent, even though they may not have had rheumatic antecedents. One of the arguments against a rheumatic origin is that the disease is not modified by sodium salicylate, but this same drug is equally ineffective as regards endocarditis, cutaneous eruptions, etc. Beyond all doubt the origin of chorea is rheumatic in most cases.

According to Marfan,¹ the predisposing causes are age (from 6 to 15 years) and alcoholic or arthritic nervous heredity; the exciting causes are infectious diseases. Choreia is nearly always secondary to acute articular rheumatism, or to some infectious disease, such as influenza, measles, typhoid fever, scarlatina, and chicken-pox; or to chronic bronchitis with, probably, tuberculosis; to boils on the nape of neck, cervical adenitis, febrile dental periostitis, impetigo, suppurating otitis media, and endocarditis or pericarditis. An efficient part is played by the mental emotions. In 19 of 76 cases he found no family history of disease, but suspected an unobserved previous infection. In 14 cases he found cardiac lesions, and in 6 of the 14 the chorea was unmistakably of rheumatic origin; further there is an etiological identity between chorea and endocarditis.

Krafft-Ebing² states that chorea is oftener seen in adults than was formerly

thought, and that in them it possesses a different significance. Again, the proportion of female to male cases is as 3 to 1. It is not always hereditary, and may be result of rickets, and even of severe fright. Among the actual determining causes he places febrile diseases with pain, and notes that in England the connection between acute rheumatic affections and chorea is very close. Endocarditis, *per se*, he will not admit as a cause, though it may frequently be an accompaniment.

Guck³ describes two cases of what he terms "rheumatic chorea" in which heredity was very apparent. None of the ordinary drugs were of benefit, but sodium salicylate gave relief.

Meyer⁴ points out the close connection which exists clinically between chorea and rheumatism. In a fatal case of chorea a considerable number of pyogenic cocci were found in the blood and in various organs, including the brain, being the same micro-organisms discovered in the pathological products of acute articular rheumatism; thus it is possible that these cocci are the connecting-link in the etiology of chorea and rheumatism.

Napier⁵ details six cases, all in young women of ages varying from 17 to 21, in which the disease was very grave, and proved fatal in two. He noted the previous association of scarlatina or rheumatism—articular, endocardial, and præcordial—in every case; likewise recurrence of chorea on the same side as the former rheumatic affection had existed; also the presence of actual mania which in its acuteness seemed

¹ Rev. Mens. des Malad. de l'Enf., Aug., '97.

² Allg. Wien. med.-Zelt., B. 111, '97.

³ Amer. Medico-Surg. Bull., Nov. 14, '97.

⁴ Jahrb. für Kinder., vol. xl, '97.

⁵ Glasgow Med. Jour., Feb., '97.

proportionate to the violence of the muscular movements.

Cornell¹ cites a case of paralysis and chorea as a sequel to scarlet fever. That the scarlatinal attack bore a causative relation to the growth of the nervous condition, he thinks, there can be no doubt.

Priestley² queries whether chorea should be considered a sequel of scarlet fever or not. Cheadle recognizes it as such, but qualifies the opinion by adding that in 1894 and 1896, 8360 cases of scarlet fever were under treatment at the Northeastern Hospital, and of these 5355 were completed there. Thirteen cases of chorea were observed, or 1 in 412 completed cases. Osler found 1 case of chorea to every 180 patients. Hence it would appear that chorea is less frequent among scarlet-fever patients than among patients in general. Of Osler's 13 cases 5 had rheumatic manifestations, which, in each instance, immediately preceded, or appeared simultaneously with, the chorea. Rheumatism or joint-affection which occurs as a complication of scarlet fever sets in toward the end of the first week; but in these cases it was considerably later, indicating a difference in the nature of the joint-affection.

Churton³ read a paper before the Medical Society of London in which he took the ground, as the result of a study of 600 cases, that the toxin of chorea may be a glycocin, for which reason micro-organisms will not be found in the blood. No light has been thrown upon the connection of arthritis and chorea nor any explanation advanced why the toxin settled in the brain when chorea occurs in rheumatic individuals. He has failed to find any cases of rheumatism caused by fright or any of chorea primarily induced by chill.

Sanson⁴ denies that arthritis and chorea are two manifestations of the same morbid process.

Bishop⁵ believes an unstable condition of the higher nerve-centres predisposes to the condition, and that a poison affecting these centres might produce in one person epilepsy, in another general neurasthenia, and in a third chorea.

Dakin⁶ reports seven cases of pregnancy complicated by chorea. While it is not common among pregnant women, it is a grave complication when present, and is itself modified by the fact that pregnancy exists; is also much more fatal; and mania is often present. Chorea is most frequent in first pregnancies and in young women. It usually appears during the first six months, the worst occurring at the second, third, and fifth months. A mitral murmur is present in all cases.

Mosler⁷ describes a form, which he terms "alcoholic," occurring in adults with symptoms very similar to those of the ordinary form; the movements cease during sleep, although sleeplessness is a prominent symptom. The mind remains clear.

Massalongo⁸ cites two cases that seem to corroborate Mosler: one in a man, aged 23, whose mother was hysterical and his father an alcoholic, who suffered from bilateral chorea with athetosis; the other a boy of 13, whose malady he terms "*Corea spasmodica congenitale*."

Mei⁹ studied choreics bacteriologically, and discovered a lanceolate encap-

¹ *Medicine*, Jan., '98.

² *Brit. Med. Jour.*, Sept. 25, '97.

³ *Med. News*, Dec. 4, '97.

⁴ *Ibid.*

⁵ *Canadian Prac.*, Nov., '97.

⁶ *Practitioner*, London, Dec., '97.

⁷ *Med. Rec.*, Feb., '97.

⁸ *Policlinico*, Feb. 5, '97.

⁹ *Gaz. degli Osp. et delle Clin.*, Aug. 22, '97.

sulated diplococcus extremely pathogenic to guinea-pigs, in which it determines an hæmorrhagic hyperæmia with diminished fibrin and no œdema. The histological lesions in the nervous system of patients and in the viscera of the guinea-pigs showed that the effect was more toxic than septic, with an elective action on the vessels. His findings appear to sustain Leroux's theory that chorea is a syndrome determined by some infective or toxic agent on a soil prepared by an inheritance of neurotic and arthritic tendencies.

Burr,¹ after studying about forty cases, finds that the blood is rarely absolutely normal in amount of coloring matter and number of red corpuscles during an attack. There is usually a moderate diminution in the hæmoglobin and a relatively slighter decrease in the number of red corpuscles; in other words, the anæmia is chlorotic in type. There is no relation between the severity of the anæmia and that of the attack, and when the latter is profound there is usually some complication competent to explain it. Anæmia is not an immediate, direct, exciting cause, but frequently a predisposing one.

Loudon² defines three groups, each having special blood-characteristics. The first he calls the plethoric group, and in these the patients are well nourished and of healthy appearance, but blood-examination shows some leucocytosis, and the acid-stains are not well taken up. The second group includes the anæmic cases, which are ill nourished, of unhealthy anæmic appearance, and to which a history of rheumatism frequently obtained,—*morbus cordis* is often present; in these a great lack of staining power is shown by the red corpuscles; macrocytes and microcytes are observed, and also poikilocytosis.

The third group is made up of what he describes as the tetanic cases. In this group the movements are incessant during waking hours and very severe; articulation is defective, swallowing difficult, and there is a tendency to formation of bed-sores. One case of this latter description showed marked alteration in the blood and a tendency to disintegration of the red corpuscles. He holds that a case is grave and intractable in direct proportion to the alteration of the blood. Nearly all the cases show blood-changes and leucocytosis. In a few cases he observed marked increase in the amœboid movement of the white corpuscles, and thinks he has noticed a diminution of the eosinophile or orthophiles among the white corpuscles. He finds that in all cases the condition of the blood is of great importance in establishing a prognosis. He points out, in conclusion, that in the further study of chorea its hæmatology is of the greatest importance, and is of opinion that the clinical aspects of the disease point to an infectious origin.

Adult Chorea.—Facklam,³ in a case of chronic chorea that died, found atrophy of the brain, pachymeningitis, leptomeningitis, recent hæmorrhages in the cortex and subcortical medulla, endarteritis, and diminution of the number of tangential fibres. He concludes that "Huntington's chorea" is something quite apart from the other forms of chorea, inasmuch as it manifests itself in somatic and psychological symptoms, may be inherited, and progresses very slowly; in its course it is accompanied by degeneration. Chronic periencephalitis is most probably the cause.

Collins⁴ also studied Huntington's

¹ *Pediatrics*, Feb. 1, '97.

² *Clin. Med. Record*, Dec., '97.

³ *Archiv f. Psychiat.*, vol. xxx, Part I, '97.

⁴ *Med. Rec.*, Nov. 20, '97.

chorea and discovered that the reports upon its pathology are not uniform. In a case that he saw, the movements were very severe and incessant except during sound sleep, and even then they often caused awakening. The disease was fatal, and traceable to the maternal grandfather, who had three children, two of whom were affected with the disease, one of the two being the mother of the patient. At the post-mortem the dura was found considerably adherent, the diploë dense, and the Pacchionian depressions marked; the brain had a wet appearance, and the pia was not adherent. The convolutions of the anterior pole of the brain were very small, and the entire encephalon weighed forty-three and one-half ounces. The macroscopical changes were: thinness and atrophy of the cortex; mottled, streaked appearance and cribriform condition on cross-section in the fresh state, due to diminution in number and health of the ganglion-cells and to the increased perivascular and pericellular spaces and increased patency of blood-vessels. The microscopical changes were: decay or slowly-progressive degeneration of the ganglion-cells of the cortex throughout the brain, especially of the two deepest layers, the layers of large pyramidal and polymorphic cells,—this cell-death was particularly evident in the Rolandic region, very much less so in the anterior pole of the brain, and incomparably less in the posterior pole; increase of glia-tissue, but not sufficiently prominent to constitute sclerosis, the conspicuous increase being about the blood-vessels and ganglion-cells; enlargement of the pericellular spaces and distension of the perivascular spaces; slightly-diseased blood-vessels, consisting principally of a proliferation of the nuclei of the adventitia and a

thickening of the intima (this involvement of the vessels was not regular or symmetrical, but showed itself in certain sections of vessels only); relative paucity of the medullated fibres of the cortex. In short, it may be said that the lesion was a chronic parenchymatous degeneration of the cortex, with consecutive and secondary changes in the interstices, the brunt of the disease having been borne by the motor regions; there was, in consequence, a degeneration of the pyramidal tracts in the spinal cord. In a case of Dana's the central convolutions suffered most, and the process occurred in patches throughout the affected cortex. There was nothing to justify the opinion that it is an inflammation; on the contrary, the process is evidently one of degeneration.

Krafft-Ebing¹ has seen three cases of senile chorea, of which Charcot, in all his wide experience, only observed four. It is due to alterations in the cerebral cortex, is very fatal, and usually runs its course in less than a year.

Bondurant² cites a case of chorea, developing at age of 18, following childbirth, associated with progressive dementia, athetoid movements of upper extremities, and spastic paralysis. Death from gangrene of the lungs at the age of 27.

Stanley³ reports two cases of chorea coming on at the ages of 34 and 23, in a sister and brother, respectively. No other member of the family ever exhibited a similar affection.

Riseman,⁴ says that, compared with its frequency in childhood, chorea is rare in advanced life; he chronicles a case in a German aged 75 years. Ex-

¹ Allg. Wien. med.-Zeit., B. 111, '97.

² Allen. and Neurol., July, '97.

³ Birm. Med. Rec., Dec., '97.

⁴ Amer. Jour. Med. Sci., Aug., '97.

posure to cold draughts is given as the cause.

Treatment.—Overend¹ has tested arsenic and belladonna in 25 cases. Large doses of arsenic have a beneficial influence in subduing the movements, and this is best seen after they have existed for some time. The drug should be given after food, and the patient should lie down for half an hour afterward in order to avoid retching and nausea. One girl, 10 years old, received 70 grains of extract of belladonna daily: 1000 grains in twenty six days. Another received 37 grains of atropine in eighteen days. During the administration neither fever, rash, nor erythema was noted, but the pulse became quick and the urine scanty. In 2 instances indistinctness of vision was observed; 4 suffered from sickness and diarrhoea. There was no dryness of throat, no headache, and no delirium. In 2 belladonna was useless; in the remainder its efficacy was noteworthy. It appears to be most beneficial in recent seizures, and its influence is sometimes very marked in severer forms; it makes itself felt after about four days. Should no visible improvement occur before the tenth day it is useless to continue it. It is perfectly justifiable to give to a child as much as 30 minims or more of tincture of belladonna every four hours for ten days, or even longer, but certain precautions are necessary. The patient should be kept in bed and the urine measured daily; small doses of potassium acetate may be added if it becomes much diminished or if the eyelids show puffiness. In one child nocturnal incontinence occurred and the dose was lessened. As soon as the movements become trivial or occur only during exertion, it is better to omit the belladonna, to begin massage of the affected muscles, and to administer cod-

liver-oil and syrup of phosphate of iron or other tonics. In obviously-rheumatic cases arsenic in large doses may be given a trial, or may be combined with belladonna from the first; it may be continued a week or longer without intermission.

Grancher² recommends living as much as possible in the open air and gymnastic exercises. Antipyrine and Boudin's solution of arsenic are the only drugs employed, and the action if the former is certain in that it shortens the duration of the disease. Boudin's solution exerts the same precise influence, only in a more pronounced manner; but it requires careful and discriminating handling, otherwise very serious mistakes may be made. Recovery does not take place until intolerance is shown by loss of appetite, vomiting, and diarrhoea; when these symptoms appear, the amount should be gradually diminished, but after they have disappeared, the progressive doses should be repeated. Recovery usually takes place within eight or ten days, but even then the treatment must not be suspended, but the arsenic solution gradually diminished until complete suppression is reached.

Marfan³ recommends mental and physical rest and maximum doses of antipyrine and arsenic, in the same way as suggested by Grancher; he completes the treatment by the use of some hypnotic, and during convalescence prescribes gymnastics and sulphur-baths.

Renai⁴ has confidence in only three remedies: absolute rest, avoiding any external excitation whatever, and placing the patient in a dark room; a gentle ascending electric current along the

¹ *Lancet*, London, July 31, '97.

² *Independ. Médicale*, June 3, '97.

³ *Rev. Men. des Mal. de l'Enf.*, Aug., '97.

⁴ *Gaz. deg. Osp. delle Clin.*, Aug., '97.

spine, progressively increased; arsenic in large doses, commencing with twenty drops of Fowler's solution each day for children, and double this amount for adults. When the chorea ceases, the treatment should be continued for some time, as the disease readily returns. Nutrition should be carefully looked after, and gymnastics are useful.

Spiller¹ reports a case of parietic chorea, in a child 10 years of age, the movements a little more violent on the left side; in the lower limbs and face very slight. She was put on proper diet, her mode of life regulated, and Fowler's solution given in ascending doses. Improvement was rapid, and within a few weeks the paresis and choreic movements had disappeared.

Sinkler² regards the general health as of first importance. Tonics, especially chalybeates, should be administered, and, if possible, change of air obtained. Arsenic, to be of value, must be administered in gradually-ascending doses until some toxic influence is observed. Many cases which are not relieved by internal administration are cured by arsenic hypodermically. Much benefit will be derived from offering a premium whenever the movements are controlled for a certain length of time. The most speedily beneficial results are obtained by a modified course of rest treatment.

No routine treatment can be followed, states Tompkins.³ The first indication is to remove everything that may be an irritating cause. The patient should be taken from school; if the prepuce is too long, it should be cut off; if there is evidence of worms they should be got rid of, etc. The percentage of hypermetropia, usually latent, he believes is extremely large, perhaps fully 70 per cent.; and an investigation for latent heterophoria should always be made

with the greatest care and patience. The relief of marked heterophoria should be finally attained only by graduated tenotomies upon the muscles exhibiting abnormal tension or by advancement of the tendons exhibiting defective power. Prismatic glasses are not curative and should not be given for constant use. Choreic subjects are usually rapidly cured by eye-treatment alone; the eye-problems encountered, however, are not, as a rule, so complicated and difficult to solve as those of epileptics. He employs sodium bromides with Fowler's solution of arsenic, and, if there is a chance of malaria being a factor in the trouble, gives quinine also.

Lewis⁴ has given arsenic so often in chorea that he has grown to look upon it as a safe remedy in childhood. Ten drops of Fowler's solution, three times daily is not a large dose, and is often exceeded, not only without harm, but with decided benefit.

Collier⁵ saw a pregnant woman, aged 21, who suffered from chorea, which chiefly affected the head, face, and right arm. She was at once given Fowler's solution, increased, after a few days, to 10 minims, thrice daily. Seventeen days later the doses were doubled, but had to be permanently discontinued a few days thereafter because of the erythematous rash it induced. The movements now became more marked and she was unable to obtain any rest without sedatives: chloral, bromides, morphine, sulphonal, chloroform inhalation; the free use of alcohol was tried, but she became worse. At times she became mentally excited and maniacal. After twenty-six

¹ Phila. Polyclinic, Aug. 28, '97.

² Amer. Jour. Med. Sci., May, '97.

³ Amer. Jour. Obst., Mar., '97.

⁴ Phila. Fed. Soc.; Med. and Surg. Reporter, '97.

⁵ Br. Med. Rev., Oct., '97.

days she began to exhibit symptoms of exhaustion. Abortion was now induced, a five months' foetus delivered, and the uterus thoroughly washed out with a strong solution of iodine. The patient made a rapid recovery. There is no doubt in the mind of the author that the abortion saved her life.

Krafft-Ebing¹ lays stress upon the attainment of "peace of mind and body." A meat diet is contra-indicated, and the patient should be out-of-doors as much as possible. He inveighs against the use of electricity, but recommends warm baths. In severe cases sleep may be induced by means of the wet pack; if hypnotic drugs are called for, he prefers amyl hydrate, trional, urethan, and, in the worst cases, chloral hydrate. In treating the general condition he states that nothing approaches arsenic for allaying the irritability of the nervous system, though nux vomica is often of service. Chorea in adults of over thirty years comes on slowly, is difficult to subdue, and its victims often develop *tædium vite* and suicidal impulses. In one case of this kind it was found that hyoscine acted with benefit for a time, but later on the disease progressed.

Bishop² gives attention to bowels and diet, the securing of proper food, etc.; also employs static electricity and inhalations of ozone.

Marfan³ says the three great remedies are rest, antipyrine, and arsenic.

Admitting—and it is generally accepted to-day as a fact—that the choreic movements are due to hyperæmia of the superior portion of the cord, says Simon,⁴ it is rational to apply each day dry cupping to the neck. Aconite is a valuable remedy, and, when the patient is much agitated, bromides, chloral, and the warm bath are useful. In the second stage antipyrine appears to be the

best remedy in every case, and, properly administered, is without danger,—even children bear it well,—and alike diminishes the duration of the malady and the intensity of the movements. Ten grains should be given at the outset three times a day, and gradually increased until double the amount can be ingested. During the period of decline, tonic régime, warm salt-baths, gymnastics, and arsenic and phosphate of lime, alternately, are to be insisted upon.

Rodman,⁵ speaking of those rare cases of facial neuralgia with chorea of the opposite side, believes that intracranial neurectomy is the only reasonably certain method of relief.

Adams⁶ chronicles a case of choreic embolism, in a boy aged 8 years, which recovered after four months under the exhibition of potassium iodide, aided by rest in bed and good, rich food.

DYSMENORRHOEA.

Etiology.—Parsons,⁷ during ten years' experience, had never met with a case of membranous dysmenorrhœa nor seen one in the practice of his colleagues; it appears to be a pathological curiosity. The spasmodic neuralgic form without any pathological lesion is also extremely rare. Unmarried women who are not anæmic should, if necessary, be examined under an anæsthetic, and the probability is that some lesion will be found to account for the dysmenorrhœa. A great number of cases occur in anæmic young women, and full doses of iron will cure the anæmia, and with it the dysmenorrhœa. The worst cases are usually due to antelexion, and in many

¹ Allg. Wien. med.-Zeit., B. 3, '97.

² Canadian Prac., Nov., '97.

³ La Sem. Méd., July 30, '97.

⁴ Med. Press and Circular, Apr. 7, '97.

⁵ Amer. Prac. and News, June 12, '97.

⁶ Ann. Gyn. and Ped., Jan., '97.

⁷ Brit. Med. Jour., Oct. 24, '97.

of them the sound will not pass until the uterus is straightened. The patients themselves state that after hours of agony (presumably from contraction of the uterus) they pass some clots, and are immediately relieved until their next period. He very much doubts the ovarian origin of dysmenorrhœa, to which the formation and growth of an ovarian cyst did not give rise. There is no scientific proof that the ovary *per se* ever causes dysmenorrhœa. When no lesion can be found, the fault is probably in the nervous system, and to this attention must be directed. Fibroma not infrequently causes dysmenorrhœa, even in women under thirty years of age. The tumor may be very small and escape notice unless a careful examination is made under an anæsthetic. For these cases the negative pole of the constant current, in mild doses every other day, is of great benefit.

Williams, of Cardiff,¹ calls attention to the co-existence of painful menstruation and acute ante flexion of the uterus. The class of patients who suffer from this type of disease are usually, if married, sterile, and the supervision of pregnancy often effects a cure; the pain which they suffer is colicky in nature, felt chiefly in the hypogastric region, and dates from puberty. Pelvic examination reveals the absence of any inflammatory lesion; the uterus bobs up and down on the examining finger with great mobility, and is sometimes displaced backward, sometimes to one side. The degree of ante flexion may be in excess of normal, but still not be pathological. The pain is probably due to irregular abnormal contractions, set up by a diseased condition of the mucous membrane at the seat of flexure.

De Leon² combats the obstruction theory of dysmenorrhœa, and divides

the malady into dysmenorrhœal endometritis and uterine spasm. The first includes all forms in which there is any local mechanical obstacle; all others are uterine spasm, which he regards as affecting the sphincter of the uterus; that is, the cervix. Of 167 patients observed 37 complained of painful menstruation; in 32 a local cause was discovered, but in 5 virgins the affection was spasmodic; besides, there were 21 who had manifest stenosis without painful menstruation. Among those subjected to curetting there were 17 with dysmenorrhœa, but only 1 had marked stenosis. Stenosis may be due to swelling of the mucous membrane occurring only at the period of menstruation, and consequently not noticeable at other times. Diseases of ovaries and Fallopian tubes may be a cause; so may heredity. In one family where 2 daughters suffered with dysmenorrhœa, a son had dyspepsia and the father was a drinker; in another family 3 girls had dysmenorrhœa, a boy had nervous dyspepsia and headache, and the father was not a drinker.

Treatment.—Cameron, of Glasgow,¹ considers the spasmodic variety by far the most common, as there is frequently little to be detected beyond the symptom of severe spasmodic pain. Some relief may be obtained by sedatives externally or internally, but there is always danger of setting up an opium or chloral habit. It is better to dilate the uterus, either by tents or solid instruments; but the use of tents is not free from danger, both from sepsis and from fracture or tearing away of a piece of the tent upon extraction. To effect rapid dilation the solid dilator, well regulated, is preferable. The uterus can be

¹ Brit. Med. Jour., Oct. 24, '97.

² Centralb. f. Gynäk., July 17, '97.

easily secured by the vulsellum forceps if a sound is previously introduced into the cavity, and a series of dilators can then be passed rapidly, with the result that the patient is relieved, at least for some months.

Martin, of Birmingham,¹ says the causes of dysmenorrhœa may be either extra-uterine or intra-uterine, and the treatment differs markedly in the two classes of cases, for what will relieve in the one may prove worse than useless in the other. Three factors are concerned in the production of the pain of dysmenorrhœa, viz.: (1) contraction of the muscular fibres of the uterus or Fallopian tubes; (2) increased spasm; or (3) blood-pressure in the tissues or uterus or appendages,—congestion the cause. Nearly all are benefited by rest at the periods, hot vaginal douches during and between the periods, and, in inflammatory cases, tampons of glycerin and ichthyol, and saline aperients. Morphine and alcohol will give great relief, but must never be recommended; the administration of alcohol to young women at such times is to be blamed for much of the secret drinking that prevails. The drugs most useful are bromides and belladonna, antipyrine, and cannabis Indica, and both *viburnum prunifolium* and *viburnum opulus*. Operative measures should only be resorted to when other and less severe remedies have failed. In cases due to spasmodic contraction of uterus or stenosis of cervix (if there be no signs of extra-uterine disease) dilatation is often of some service, but is seldom of more than temporary benefit. In cases due to chronic peritonitis, binding down and matting together the uterus, ovaries, and tubes,—cases in which the ovaries are cystic and the tubes perhaps occluded, and the uterus retroverted and adherent to the

rectum,—very marked and permanent benefit results from a “conservative operation” on the appendages. Here it is best to free the uterus, ovaries, and tubes from the adhesions, and after ignipuncture of the cystic or sclerosed ovaries fix the fundus forward to the anterior abdominal wall. In grave and otherwise incurable lesions of appendages, such as abscesses of the ovary or pyosalpinx, the removal of the diseased organs is strongly indicated.

Williams² thinks rest in bed and saline aperients are of very little value. Better results are obtained by the use of nitrite of soda combined with a diffusible stimulant; but for obvious reasons such a treatment cannot be followed month after month. Dilatation is successful to some measure; that is to say, the pain is kept away from three to six months, but returns later. Dilatation performed a second and third time yields slightly better results, but never results in complete cure.

Routh, of London,³ thinks dysmenorrhœa should be regarded as a symptom associated with many other constitutional or local symptoms, and the whole group of symptoms treated, tracing all back to the main constitutional or local *origo mali*, of which the dysmenorrhœa is simply a solitary evidence. He first treats the constipation, the anæmia, or other constitutional state, and then, if need be, examines per rectum, and, if the perimetrium is involved or the ovary enlarged, their state is attended to. As a rule, antispasmodics are very beneficial. The best of these are phenacetin (two doses being usually sufficient), antipyrine, or nitroglycerin ($\frac{1}{100}$ grain). Locally a glycerin and gelatin pessary.

¹ Brit. Med. Jour., Oct. 24, '97.

² *Ibid.*

³ *Ibid.*

If these simple measures fail, then, and then only, should any local treatment be adopted, dilatation being often of great value.

Lycett, of Wolverhampton,¹ considers that, in the absence of local cause, it is important to investigate the past and family history of the patient. In the rheumatic diathesis he has found the administration of black cohosh and allied remedies advantageous. Struma is often an associate, if not an etiological, factor.

Fenwick, of Soho,² says that very many cases are due to congestion caused by constipation or otherwise, and improved by scarification and saline purgatives, especially sulphate of soda. Too great benefit has been attributed to dilatation, the effects of which on the cervical canal completely pass away in an hour or two; there is no doubt that constitutional taint, and especially the rheumatic diathesis, is an important element in a very large number of cases.

Byers, of Belfast,³ attaches great importance to the personal equation in patients. Each case has to be treated by itself. In some, attention to such conditions as anæmia, the rheumatic element, or constipation will cure the ailment; in others dilatation, done with the strictest antiseptic precautions; while in many simple cases in unmarried women attention to the nervous system and an endeavor to make the patient less introspective, and by bicycling, or some occupation to direct her mind away from her painful pelvic sensations, will frequently bring about a complete cure.

Kerr, of Glasgow,⁴ is prepared to admit that in time the cervical canal returns to the narrowed condition that existed before dilatation, but he is satisfied that very distinct benefit results for some time, perhaps for a few months.

But dilatation is not always, nor in the majority of cases, the best treatment. In nervous cases he has seen very considerable benefit from treatment by electricity, either by the continuous or faradic current.

Connel, of Peebles,⁵ calls attention to the fact that in sterile married women prescription of abstinence from marital relations for longer or shorter time, followed by free dilatation immediately before their resumption, will often prove successful; such was the case in three instances where sterility had existed for from three to five years. He believes in the advantages of bicycling; and if growing girls, especially when anæmic, were systematically encouraged to practice this exercise in moderation, we should, by and by, have less of spasmodic dysmenorrhœa.

Purslow, of Birmingham,⁶ says dysmenorrhœa is often met in women in whom the first few years of menstrual life was free from pain, and in whom, therefore, it cannot be due to congenital conditions, but is probably of neurotic origin. He strongly deprecates local examinations or mechanical treatment unless good was likely to be done; it is a great misfortune for a young unmarried girl to get the idea that she has something "wrong with her womb," and he would rather advise that she should be encouraged as much as possible not to dwell on her symptoms.

Cadell, of Edinburgh,⁷ thinks that dysmenorrhœa seldom occurs at puberty except in cases of an infantile uterus, and is due to some cold or overexertion, easily cured if taken in time, but, if neglected, extremely intractable. Neither alcohol, morphine, nor even the bromides should be prescribed. The mind

¹ Brit. Med. Jour., Oct. 24, '97.

² *Ibid.* ³ *Ibid.* ⁴ *Ibid.* ⁵ *Ibid.* ⁶ *Ibid.* ⁷ *Ibid.*

ought, if possible, to be diverted from the uterine condition, and bicycling or any work or amusement that will take the patient out of herself may be useful.

Cameron¹ refers to the marked increase of dysmenorrhœa resulting from too common custom of using preventatives against conception.

The best treatment preceding the flow and associated with a movable uterus is, according to Langstaff,² the injection of 10 minims of a 3-per-cent. mixture of Churchill's tincture of iodine and water into the uterine cavity every four or five days during the intermenstrual period. The injection is effected by means of a fine glass tube, curved an inch from the end and expanded into a funnel shape at the other; a piece of sheet rubber covers this end, and by the pressure of the finger the contents are passed into the uterine cavity. The majority of the cases treated by him in this way were unmarried, and had previously required opiates. The treatment has no effect when there is pelvic inflammation or disease of the ovaries and tubes.

De Leon³ remarks that, of 17 sufferers from dysmenorrhœa, 8 were completely cured by curetting; 7 of the remaining 9 returned with a relapse of the old trouble; 2 received absolutely no relief. If investigations warrant the theory of spastic contraction, high amputation of the cervix should be performed. In one case of dysmenorrhœa and sterility Schröder's conical excision of the cervix did away with both complaints.

EPILEPSY.

Treatment.—Chas. B. Stockwell⁴ cites the case of a boy, 3 ¹/₄ years old, who developed severe attacks of *grand mal*. At the end of the second month the paroxysms had assumed the *petit-mal* type, and became very frequent, as

many as from seven to twenty-five seizures occurring in a single day. Repeated examination showed no reflex source of these convulsions. He was at first given bromide of ammonium, 4 grains; antipyrine, 1 grain; and Fowler's solution, ¹/₂ minim, twice daily. Under this treatment the convulsions were increased. The treatment was then changed to bromide and iodide of sodium, of each, ³/₁₀ grain; antipyrine, ¹/₈ grain; and fluid extract of horse-nettle, 10 to 30 minims. Like the other treatment, this caused no lessening of the convulsions, and it was decided to try horse-nettle alone. Accordingly, he was put on a fluid extract of the berries and root prepared by Parke, Davis & Co. The dose was gradually increased until 1 ounce of the preparation was given three times a day. During part of this time a fluid extract of the berries alone was used, but later a preparation of both the berries and root, which was increased to 12 drachms four times daily. This was followed by a cessation of the spasm, but the gait became unsteady and there were pains in the muscles of the thighs and legs. These effects were attributed to the drug and to the contained alcohol, which in the preparation amounted to about 60 per cent. Later a fluid extract was prepared of the root alone, which proved more satisfactory than the other extracts. It was well borne by the stomach and seemed to have a more specific effect in preventing the epileptic seizures. At the end of a month the paroxysms had entirely ceased; but the drug was continued in diminishing doses for three or four months and then withdrawn. At the

¹ Brit. Med. Jour., Oct. 24, '97.

² Brooklyn Med. Jour., May, '97.

³ Centralb. f. Gynäk., July 17, '97.

⁴ Med. Age, Aug. 25, '97.

end of thirteen months there had been no return of the attacks.

HYDROPHOBIA—RABIES.

Prophylaxis.—G. Archie Stockwell,¹ in a lengthy article on this subject, concludes with a few simple axioms, which, if heeded, will, in the majority of cases, allay fear and quell the senseless epidemics of rabiphobia that threaten from time to time:—

Rabid dogs do not fear, but court, water.

Rabies can never arise spontaneously either in animals or man; the absence of recent wounds upon and the good health of the creature inflicting the bite are alike evidence of the non-specific character of the disease.

Wounds inflicted by the teeth of non-carnivorous creatures are never rabid, though a blood poisoning may be induced; man cannot communicate the disease to other human beings or to animals.

The saliva of truly rabid carnivora alone is capable of inducing rabies.

Excessive saliva in any creature, more especially dogs, is always induced by any affection of the mouth or throat; it is the universal sequel of toothache, of inability to swallow from any cause, of paralysis, of throat-abscess. Paralysis independent of rabid condition is a sequel to numerous local brain and nerve maladies. Twitching of eyes, of eyelids, of lips, and muscles; lolling tongue, in-drawn tail, up-drawn flanks, drooping head, slinking gait—one and all should be included in the same category.

Safety lies in preserving life of the suspected canine and sequestering for observation; by premature death the only evidence whereby rabies can definitely and with certainty be established is destroyed. Muzzle the creature and

examine for recent wounds; if none is exhibited, fear is idle.

If a dog evinces a good appetite, and if it partakes of food freely on and after the fourth day, it is not rabid; if it dies without paralysis it is not rabid; if it succumbs to paralysis, the chances are still a thousand to one that its death was due to some natural cause; if it falls into convulsions and froths at the mouth, it is an epileptic and an object of commiseration; ninety-nine of every hundred dogs pronounced “mad” are epileptics or choreics, and dogs with “fits” are positively never rabid; if after ten days’ confinement the suspected animal evinces a cheerful disposition, there is no danger whatever and it should be released.

When death supervenes, critical examination of the body—the brain, viscera, etc.—should be made by a careful, competent pathologist, to determine whether there is a cause for death *aside* from rabies.

Members of the human race suffering from rabies do not howl, whine, bark, or exhibit other canine characteristics or peculiarities any more than do cats, fowls, sheep, cattle, etc.; such phenomena are conclusive evidence the malady is—*hysterical*!

Intolerance of light and of moving air, fear of water and bright substances, and spasm of muscles of the throat and neck, far from constituting specific evidence, are common in diphtheria, croup, goitre, sore throat, lock-jaw, pregnancy, hysteria, ear-abscess, hay fever, and poisoning by certain mineral and vegetable substances; they may arise from the use of narcotics, sedatives, and alcoholics; from cancerous affections; certain maladies of the internal ear; or of the eye,

¹ Med. Age, Oct. 10-25, '97; Dom. Med. Mo., Dec., '97.

as in glaucoma; diseases peculiar to sex, and a multitude of brain and nerve maladies. In no instance would these symptoms excite special comment or alarm were not the dog linked therewith as a factor.

Error of judgment is the almost inevitable result of accepting mere negations for their antithesis; careful examination of the evidence laid down for the distinction of rabies reveals little aside from mere negations; until death ensues the weight of evidence is always negative; when dissolution follows, it is very far from being presumptive of the positive.

Since less than 3 per cent. of infected canines ever contract the malady, the danger to man is several hundred times less than from scarlatina, measles, quinsy, ague, and a host of simple maladies. As Charles Bell Taylor remarks: "It is less than one in a million—less than being kicked to death by a horse"; to which may be added: it is less than the gallows. Finally, after examining as thoroughly as possible the history of every case of rabies reported as occurring in North America during fifty years (and they number about one thousand), Stockwell has been unable to find even one that was not open to the gravest suspicion as to error.

Law¹ details a supposed case of rabies, diagnosed as such by every physician in Ithaca, N. Y., which, under a dose of castor-oil and a tonic, recovered within a week.

Smith, of Virginia,² states that rabies does not exist in his State, and that it will take better evidence than has yet been produced to convince him that it exists anywhere.

Dulles³ has carefully studied rabies, or hydrophobia, from every stand-point for sixteen years. During two years he

critically examined forty cases. He insists that rabies is not a specific disease, and that the term "hydrophobia" should, if employed at all, be used in the same sense as "convulsions" without prejudice as to the cause of the phenomena. There can be no doubt that death with a peculiar train of symptoms has often followed dog-bite; but these symptoms and the usual fatal issue are nowise peculiar to injuries inflicted by animals believed to be rabid. There are many cases in which the belief in the madness of the dog rests wholly upon the result in the person bitten, and it is not scientific to assume that this belief is more than a belief; and no person fit to discuss the question would treat it as a demonstration. Further, the symptoms appear in a great many diseases, and persons bitten by dogs enjoy no immunity from these diseases. Besides this, there are many cases in which persons have died of hydrophobia, while the dogs have survived. There are other cases in which the symptoms of hydrophobia have appeared after various traumatisms; and such a traumatism as is caused by a dog-bite may (without assuming the presence of a specific virus) lead to nervous symptoms and death. A curious factor in this connection is that dog-bites cause so many deaths in what may be termed the private walks of life, and practically none among men who are constantly handling large numbers of dogs, including persons who habitually take up stray dogs on the streets, such as dog-catchers, policemen (as in London), and attendants of such institutions as Homes for Lost and Straying Dogs. In the Home in London over 200,000 canines have been handled without a

¹ Proc. U. S. Vet. Med. Assoc., '97.

² *Ibid.*

³ Proc. Med. Soc. of Pa., '97; Med. Age, July 10, '97.

case of rabies or hydrophobia; among keepers of kennels it is the same, though they may have been bitten several times, many of the wounds inflicted by dogs believed by their owners to be rabid. It is a remarkable fact, also, that, though there has been such a fever of excitement about rabies in Paris in recent years, there have been no deaths among dog attendants and "pound-keepers." If the bites received by the foregoing people could be counted, the customary ratio of deaths to bites would have to be enormously modified. The oft-quoted guess of John Hunter, of 1 to 24, would probably require to be exchanged for 1 to 75 or perhaps 1 to 100.

[Fabre says the ratio is less than 1 to 600. Ed.]

SCARLATINA.

Infection.—Ingersles¹ reports three cases in which scarlet fever began in solutions of continuity of the skin, the patients having been exposed to other cases of scarlatina. In one the virus was probably introduced through a paronychia and corresponding lymphangitis; in the other two wounds from burns furnished the points of entrance. The symptoms in all were characteristic, except as regards throat symptoms. He suggests that, if a careful examination of the skin were more frequently made in scarlatina with mild throat lesions, cases similar to these would be more frequent, a wound in the skin being easily overlooked.

Klein² has made a bacteriological study of the desquamating skin of persons at various stages of convalescence. At no stage of the peeling process after scarlatina has he detected in the cuticle any microbe which could (to quote) "be thought of as having concern in spread-

ing the disease." The urine afforded a similar negative result.

Grasset³ reports a case of scarlatina in a boy of 2½ years, living in a district which had been free from scarlet fever for years. Investigation showed the source of infection to be a letter, received six days before the boy sickened, from the grandparents, announcing that a child living with them was convalescent from scarlet fever, and "shedding her skin," a few pieces of the latter being inclosed. The letter and its contents were used as a plaything by the boy until the day he sickened. Grasset refers to a report by Laurie of a German woman who wrote during convalescence from scarlet fever to two friends in France, both of whom subsequently developed the diseased and died.

Rotch⁴ says scarlet fever is the most irregular of all the exanthemata in its virulence and in the manifestations which it presents in different individuals. The skin appears to be the chief vehicle of the contagion, which has a wonderful tenacity for clothing and other articles, and may be capable of reproducing the disease for many months. In contradistinction to measles, which is known to be highly infectious in the early stage, scarlet fever appears to be most infectious in the latter stages, and the contagium is most likely to be disseminated during the stage of desquamation.

Seitz⁵ was unable to find either bacteria or protozoa as primary causes, and looks on streptococci as secondary invaders. The variability of the death-rate, so often mentioned, is very striking, as shown by the extremes of mor-

¹ Zeit. f. klin. Med., B. 31, '97.

² Brit. Med. Jour., Jan. 1, '98.

³ Ann. d'Hyg. Pub., vol. xxxiv; Centr. f. Bakt., Parasit., u. Infect., Jan. 9, '97.

⁴ Boston Med. and Surg. Jour., May 27, '97.

⁵ Munch. med. Woch., No. 3, '98.

tality in different years: 2.6 to 15 per cent. Season and weather have no definite influence on the frequency of complications. The local infectiousness of certain houses and rooms, and the family disposition, are often observed, as also the temporary individual disposition, many persons being affected only after several weeks' exposure. As to age, the first year of life shows the smallest morbidity. Most cases occur between the second and fifth years. Out of 833 cases second attacks were twice noted: once after one, and once after two years; in the latter the second attack was the more severe.

Coxe¹ declares scarlet fever in its relation to the health of the race holds first place, and the infection is probably confined to the period of scaling off. The scarlatinal virus surpasses any other eruptive fever except variola in its tenacity and portability. One of the most marked features of the disease is the predisposition which it entails to the incursion of pathogenic germs other than those believed to cause the disease itself, thus causing croupous inflammations, etc., as complications.

Phylaxis.—Coxe¹ further adds that the most reliable method of phylaxis is isolation of patients and nurses, and thorough use of disinfectants in their rooms and on their persons. All articles not absolutely needed should be removed from the sick-room, and no one except nurses and physicians allowed to enter. Constant ventilation should be insisted upon. Clothing used about the patient should, on removal, be placed in a tub of boiling water containing carbolic acid and sulphate of zinc, or in corrosive-sublimate solution, 1 to 1000, and allowed to soak at least an hour; then placed in boiling water for washing. Vessels used by the patient should have

a disinfecting fluid constantly in them, and be cleansed with boiling water immediately after using. Water-closets should be disinfected daily with lime or sulphate of zinc. Sterilized cloths should be substituted for handkerchiefs, and burned after using. During desquamation the patient should be kept well anointed with carbolized vaselin or like material; the physician also should anoint his hands and face and put on a close-fitting gown and hood before entering the room, and wash and disinfect his hands and face and put the cap and gown in a bag containing a sponge saturated with formaldehyde before leaving the house. After convalescence, the room and everything which has been exposed should be thoroughly disinfected, and feather-beds and straw-beds, or other things which cannot be thoroughly disinfected, be burned. Formaldehyde is probably the best, safest, and cheapest disinfectant to use. The ordinary formalin may be evaporated by heat into a closed room, a pint being so used for every thousand cubic feet of space. Thus used it is more destructive to germs than any other disinfectant. That an outbreak of scarlet fever at Plainfield, N. J., was traced to the milk-supply is an editorial statement.² One of the employees with scarlet fever continued to assist in handling the milk.

Diagnosis.—Lindsay³ summarizes the main points: initial vomiting, very constant in children under ten, less so above that age, and rare in measles, German measles, and diphtheria; undue frequency of pulse,—say 140 or 150,—out of proportion to the other symptoms; the rash, beginning on the upper part of the chest, over the clavicles, and

¹ The Sanitarian, August, '97.

² Med. News, June 26, '97.

³ Brit. Med. Jour., Feb., '97.

about the flexures of the neck, often well marked on the backs of the wrists. To discriminate between scarlatina and German measles he is in the habit of relying on the following points: In scarlatina there is initial vomiting; a brief, but well-marked, prodromal stage, with vomiting, chills, headache, and sore throat; no rash on the face; fairly well marked constitutional symptoms; the sore throat sometimes going on to ulceration; no early enlargement of post-cervical glands. In German measles there is no vomiting, no prodromal stage, the rash being often the first symptom, and always appearing on the face; little or no constitutional symptoms; no ulceration of the throat; a very characteristic early enlargement of the post-cervical glands.

Rotch¹ says that a very important point, which is often of great aid in the diagnosis of a doubtful case, is distribution of the eruption characteristic of the disease. In true scarlet fever it first appears on the neck and thorax. There is also a general intense redness of the whole throat, including the hard palate. The entire mucous membrane is affected, and the small dots, which—in connection with the hyperæmic condition of the skin—represent the condition of a punctate erythema, from being localized on the moistened mucous membrane, have a little more darkened appearance than the adjacent reddened tissue. In measles, on the contrary, the mucous membrane of the throat has a blotchy appearance and is of a darker red than is seen in scarlet fever, while the mucous membrane between these blotches is but slightly congested in comparison with that of scarlet fever.

Lemoine² reports twenty-three statistical cases in which the eruption was exclusively limited to the face. The pa-

tients suffered from an angina, with fever and redness of the face. The fever fell, but the redness continued, and was shortly followed by a more or less abundant desquamation. A few of the cases afterward developed albuminuria, anasarca, and symptoms of uræmia. Probably a transition stage between the anginoid scarlatina and scarlatina with general eruption.

Symptoms.—Meyers³ observed a clinical symptom which has, up to the present time, passed unnoticed, probably because scarlet fever is studied especially in children, who usually do not give very exact information regarding their sensations. This is a slight paralysis of the extremities. The patient may complain of not being able to move the hands or the feet, though this is exceptional, and was observed in one case only; more frequently it is only a numbness of the hands accompanied by a sensation of pricking or tingling; or the numbness may be absent and only the pricking or tingling sensation may be felt, localized in the palmar surface of the ends of the fingers or in the palm of the hand. This symptom is rarer in the feet; it is found in them at the same time that it occurs in the hands, or else separately. It appears during the eruption and quite frequently, at the same time with it, but exceptionally before it. Its duration is variable; it may be fugacious, lasting only a few minutes and then disappearing altogether. In the majority of cases it is of longer duration; it appears some hours or a day after the onset of the eruption, and persists for two or three days, usually with interruptions. It may also manifest itself at a later period, on the third, fourth, or fifth day of the

¹ Boston Med. and Surg. Jour., May 27, '97.

² Trans. Soc. Méd. des Hôp., Jan. 29, '97.

³ La Press. Méd., March 5, '97.

eruption. Some patients do not present this symptom until they have occasion to use their hands; others present it on coming out of a cold bath or when they put their hands in water. The symptom is very constant, and was met with in seventy-nine of one hundred cases—these statistics relate to adults only; among children it was observed once accidentally in a boy 7 years old. The symptom also is not accompanied by any painful manifestation.

In cases of abortive scarlatina this symptom may aid in the diagnosis; it may also be of use in the retrospective diagnosis in patients who do not present the eruption and in whom desquamation is fugacious or very late. This symptom is absent in other eruptions.

Fussell¹ queries what is the condition of the tongue which is considered characteristic of scarlet fever, and what is the appearance of the tongue to which the term "strawberry" is applied? During the first three or four days of scarlet fever the tongue is white-coated, with the papillæ prominent, sticking out through the white fur, as if the organ had been sprinkled with red pepper. After the fourth day this coating disappears,—sometimes gradually, but sometimes quickly,—leaving the tongue of a bright, shiny red, with very prominent papillæ.

The first conditions, while common in scarlet fever, and while the redness of the papillæ is more marked in that disease than in any other, occur in many febrile affections, especially where there is irritation of the digestive tract; therefore they cannot be characteristic of scarlet fever. The more or less desquamation of the tongue, leaving it bright red and rough, with prominent papillæ, does not occur in any other disease, and is therefore characteristic. If the term

"strawberry" is to be applied at all, it should be to the rough, bright-red tongue with prominent papillæ.

Complications.—The chief sequel, the only one which is at all common, says Rotch,² is nephritis; but cardiac disease, commonly secondary to the nephritis, may occur. Lesions of the other organs are unusual, and have no direct connection with the scarlet fever; they are due partly to the fever and partly to the septic processes which have arisen in the course of the disease, and are represented, as would naturally be expected, by a congested condition of the various internal organs, and by the usual changes which are found in pleuritis, pericarditis, endocarditis, and meningitis. Scarlet fever may begin with such great cerebral excitement as to lead the physician to suspect meningitis, and it may not be possible to make a diagnosis until the efflorescence has appeared, which may not be until the eighth or ninth day. Most of the complications which arise in scarlet fever are due, probably, to the action of streptococci, either isolated or associated with other micro-organisms. These micro-organisms produce serious symptoms, which are often followed by death, either directly, giving rise to septicæmic processes, or indirectly, by nephritis. The earlier in the course of the disease the symptoms of nephritis appear, the severer, as a rule, will be its type. The extent of the albuminuria is of less consequence than the total quantity of the urine. A rapid and extensive diminution of the urine is ominous, as it indicates the accumulation of nitrogenous waste in the blood and the danger of a resulting uræmia. The albumin occurring early in the disease is more apt

¹ N. Y. Med. Jour., May 22, '97; Univ. Med. Mag., May, '97.

² Boston Med. and Surg. Jour., May 27, '97.

to be in large quantities than when it appears first in the third or fourth week. Hæmaturia is frequently present in this form of nephritis, but ordinarily of itself adds little to the gravity of the disease. The œdema of the face may be followed by a rapid involvement of the ankles and legs, and at times it may become general. During the course of a general œdema the desquamation is apt to cease and to return on its disappearance. The œdema may last for months or may pass away quickly; it may be entirely absent, but in such cases the nephritis is almost invariably of a light grade. At times, during the presence of a general œdema serous effusions into the pleura may occur. Œdema of the lungs and brain, though very rare, may also supervene. Instead of a slow development beginning with œdema of the face, there may be an acute attack, ushered in by fever, vomiting, headache, œdema, amblyopia, coma, and convulsions. Relapses may occur many weeks after an attack of scarlatinal nephritis, and the case should be watched with the greatest care for several months. The nephritis of scarlet fever, although it may last for several months, has a tendency to ultimate recovery in children, on account of their wonderful recuperative powers. It is also rare for the renal disease following scarlet fever to become chronic. Retinitis and amaurosis at times occur during the progress of the nephritis. Rotch states that in the cases of amaurosis it has been noticed that, although the loss of sight may be complete, almost always where uræmia and amaurosis are coincident there is found no perceptible change in the retina, no congestion of the papillæ, no increase of the intracranial pressure, and no increase of œdema of the brain. The sight,

under these circumstances, may be recovered completely.

Regarding scarlatinal albuminuria, Dittmar¹ observed the urine of ninety-one consecutive cases of scarlet fever varying in age from one year and two months to fifty years, the majority, 84.6 per cent., being under fifteen years, and 62.6 per cent. being under ten years of age. In some cases as many as three or four specimens from each patient were analyzed daily, and, in all, over ten thousand specimens were examined for albumin and hæmoglobin. One or both were detected at some period in 52.7 per cent. of cases, and of these 60.4 per cent. were under ten and 81.2 per cent. under fifteen years of age. In most of the cases the quantity of albumin was small, and could be detected only by careful testing; in some cases merely an occasional trace was detected, but in others it persisted for weeks and was sometimes very considerable. In some of the cases "blood" alone seemed to be present, the albumin bearing a proportion to the hæmoglobin such as exists in normal blood. In other cases both blood and albumin were found, the amount of the latter being out of all proportion to the hæmoglobin. There was no particular date on which albumin seemed particularly prone to appear, although a relatively large number of the cases showed the presence of an abnormal constituent during the latter half of the first week, during the second week (ninth to the twelfth days), and on the thirty-first day than at any other period of the illness. The cases seemed to divide themselves into cases of "early" albuminuria, and cases of "late" albuminuria. Twelve cases were "early" albuminuria, and in nine of these the albumin disappeared

¹ Glasgow Med. Jour., Dec., '97.

only to reappear again later in the disease. The interval during which the urine was free was from three to forty-eight days.

The somewhat rare occurrence of various paralyses in the course of scarlet fever has been studied by Alexieff,¹ who has only been able to collect 7 or 8 published cases, together with 2 coming under his own observation. The first suffered from left hemiplegia about three weeks after the eruption, the face, tongue, and upper and lower limbs being affected. In about twelve days a marked improvement set in, progressing to complete recovery. In the other case there was complete paralysis of the right half of the body; the paralysis was of a particularly marked degree, with loss of the right naso-labial fold, complete loss of power in both upper and lower limbs and the right side, loss of knee-jerk, and impaired sensation. There were no symptoms of endocarditis, but bronchopneumonia with a marked degree of albuminuria. On post-mortem there was subacute parenchymatous nephritis, degeneration of the cardiac muscle, thrombosis of the left middle cerebral artery, and almost complete softening of the lenticular nucleus and of the posterior portion of the internal capsule.

Symes² remarks that rashes during convalescence are by no means of uncommon occurrence, and they should not be confounded with the true relapse, in which the patient passes again through all the stages of the first attack. The true secondary rashes are of importance, however, as they frequently indicate the beginning of a period fraught with grave danger.

Secondary rashes may be erythematous, urticarial, eczematous, papular, or hæmorrhagic, and generally appear in or about the third week, and almost in-

variably in patients in whom the initial throat symptoms have been of more than average severity. Although the appearance of the skin lesions frequently coincides with a recrudescence of amygdalitis, Symes does not think it likely that they are the result of septic absorption from fauces. In some cases no amygdalitis is observed; and there is seldom any ulceration or sloughing; in others the rash precedes the appearance of tonsillar trouble. Probably about the third week there is a certain period, during which certain products of the disease are being eliminated, when the organs engaged are apt to suffer. In the digestive system such disturbance is marked by diarrhœa and vomiting, and in the kidneys by nephritis and albuminuria, the latter of so slight a nature, perhaps, as to be disregarded. The lymphoid tissue of the tonsils and the lymphatic glands are noticeably excitable, and that great excretory organ, the skin, is frequently affected. The septic rashes are accompanied by much wasting, and the mortality is very high. Symes cites Mahomed, who observed that in scarlet fever there are certain changes of constant occurrence between the eighteenth and twenty-second days of the illness, such as a rise of temperature and arterial tension, along with diminished excretion of urine and urea, albuminuria, bronchorrhœa, adenitis, and diarrhœa. Secondary rashes appear to have received but little attention.

Seitz³ remarks that recidives of the rash are often noted, usually after eight to ten days. Nephritis is not affected by season, nor by diet, but is dependent on the character of the reigning epidemic. In patients under practically

¹ Jour. de Méd., July 10, '97.

² Bristol Medico-Chir. Jour., March, '98.

³ Munch. med. Woch., No. 3, '98.

uniform conditions, the frequency of nephritis varies from 9 to 41 per cent. in different seasons. The greatest proportion happens in summer and the complications—sometimes hæmorrhagic, sometimes uræmic—occur even in children on milk diet and in bed. Many cases of so-called intermittent albuminuria and chronic nephritis are due to unrecognized or neglected scarlatinal nephritis.

Littlewood¹ reports case of gangrene in a boy aged 4 years. Numerous small discolorations were noticed extending over both lower limbs from the toes to within two or three inches of the knees anteriorly and posteriorly. The scarlet-fever process followed a favorable course, except that day by day the discolorations of the limbs became more marked, though continuing patchy, lividity being most intense at the toes and feet, and becoming less so from below upward. On the twelfth day the limbs retained a considerable degree of warmth, probably somewhat exaggerated by the more or less continuous application of artificial heat, but in neither limb could pulsation in the femoral arteries be distinctly felt.

Pain now appeared, apparently of an intermittent character, and the discoloration spread to some four inches above the knee anteriorly and to slightly above the centre of the popliteal space posteriorly, being almost exactly similar in both limbs. During the next five days the temperature subsided to the normal. Five days later an oblique line of demarcation formed, roughly extending in both limbs to three inches above the knees in front and to the centre of the popliteal spaces behind. At this time rdia dilatation was noted, together h a suspicion of roughness of the first

sound at the apex. Amputation was accordingly advised and carried out.

Goodall² reports case of a girl, 8 years of age, who, on the eleventh day of scarlatina, had convulsions, followed in a few hours by general rigidity and coma. The temperature reached 107° before death. No albumin could be detected in the urine. The autopsy showed thrombus in the veins of Galen and the right lateral sinus. The choroid plexuses were covered with a thick coating of fresh lymph. The optic tracts showed red softening. The ears were normal, but slight ulceration of the tonsils present.

Recurrence.—Drake³ reports a case in which the patient had two distinct attacks of scarlatina, exfoliation of the epidermis occurring after each attack.

Millard⁴ remarks that the true malignant form is now fortunately comparatively rare, and in consequence scarlet fever is no longer the dreaded and fatal disease it was formerly. What this change in type is due to we do not know, but it is to it rather than to any improvement in methods of treatment that we must chiefly attribute the remarkably-low case-mortality which now obtains. When the true malignant form does occur, we are forced to realize how helpless we still are. Out of an experience of over 5000 cases Millard can only remember seeing three undoubted cases in children under four months of age.

Treatment.—Huber and Blumenthal⁵ experimented with the blood of persons convalescent from scarlatina. Blood was drawn from a vein of the elbow; the serum was mixed with an equal amount

¹ *Lancet*, Lond., July 10, '97.

² *Proc. Royal Soc. Med. and Surg.*, Mar. 23, '97.

³ *Med. Rev.*; *Amer. Prac. and News*, May 15, '97.

⁴ *Brit. Med. Jour.*, Jan. 15, '97.

⁵ *Berlin. klin. Woch.*, No. 36, '97; *Gaz. Heb. de Méd. et de Chir.*, Nov. 21, '97.

of physiological solution of salt, 1 per cent. of chloroform added, and the mixture passed twice through a Beckfeld filter. The serum was used in thirteen cases of scarlet fever. It mitigated and shortened them all.

Gordon¹ records the case of a boy, aged 6 years, in an apparently-moribund condition on the fourth day of an attack of scarlatina, but who revived under stimulant treatment, and seemed to improve until the seventh day, when he grew rapidly worse and seemed to be dying from septicæmia; was semicomatose, with failing heart, dusky rash, and diarrhœa; pulse, 180; temperature, 103°; offensive discharge from fauces containing streptococci and staphylococci, but no bacilli. Ten cubic centimetres of streptococcic serum were injected under the skin of the abdomen. The next day the temperature was 103°; the pulse, 106 and stronger; the fauces less offensive, and the heart less dilated.

Another dose of 10 cubic centimetres was then given. After this no bad symptoms were observed, and the boy made a good recovery, convalescence occurring very much sooner than is usually the case with those who have had septic symptoms. Gordon suggests that this treatment may be valuable in septic cases when the signs exist from the first and are not in proportion to the severity of the throat symptoms, or when the condition is due to the absorption from a sloughing throat or nose. Later² he states that the serum is not of much value in cases where the septic symptoms appear late and are due to absorption from sloughing tissues, but strikingly good result may be obtained when there is septicæmia at the onset and the serum is given early.

M. Roger³ says that, out of a hundred and eighty-three cases during six months,

only two died. He determined to make trial of the serum treatment. At eleven o'clock in the morning phlebotomy was practiced, and afterward eighty cubic centimetres of defibrinated blood taken from a patient convalescent from scarlatina were injected under abdomen. Five hours later the patient was sleeping quietly and breathing easily. When he awoke and moved, the respiration changed and became the Cheyne-Stokes type; the pulse was 120 and feeble; the tongue moist; the temperature, however, remained high and no urine was passed. A bath at 82° F. was then given and the temperature began to fall. Three hours later twelve ounces and a half of saline solution were injected subcutaneously, and in an hour urine was passed. Two hours later the patient was sleeping quietly; the pulse, 100; and the respiration 25. On the following day the patient felt better and asked for food; his tongue was raw, but moist; the eruption was pale, except on the legs, where it was still very pronounced; pulse feeble, but regular, with 80 pulsations; respiration, 22. During the twelve hours following the last injection the patient passed eleven hundred cubic centimetres of urine, of a dark-red color, but it contained no albumin. The temperature during the day ranged about 100.2° F., and on the following day became normal. M. Roger says that he has never seen such rapid recovery follow in such a grave case.

Rappaport⁴ declares that antistreptococcic serum, even when injected repeatedly, has no influence either on the temperature or on the complications; four of the patients died.

¹ *Lancet*, Lond., Jan. 2, '97.

² *Proc. Laryngol. Soc.*, Lond., March 10, '97.

³ *Presse Médicale*, Aug. 26.

⁴ *Bolnlt. Gaz. Botk*, No. 40, '97.

Seitz¹ insists that the angina of scarlet fever is rarely diphtheritic. Out of 800 cases 200 had pharyngeal false membranes, but paralysis followed in only 1 case. Of 98 in which cultures were made, Loeffler's bacillus was numerous in 3 and scanty in 4, in repeated cultures; he, therefore, rejects antitoxin in scarlatinous angina and uses Heubner's injections of 3-per-cent. carbolic acid, in the tonsil and soft palate, with cleansing and antiseptic applications by gargle, spray, and swab.

Only those diuretics should be used which do not irritate the kidney, declares Rotch.² Acetate of potassium is one of the safer agents of this class in this complication. In severe cases, with general œdema and threatening uræmia, cathartics are rather more certain in action than diaphoretics and diuretics, and are specially indicated where, as is usually the case, constipation is present. Podophyllin, in doses of $\frac{1}{10}$ grain, may be given to a child 5 years old, and be repeated a number of times; it usually acts quickly. The compound jalap powder, in doses of from 5 to 10 grains, may also be given where a rapid and decided derivation by the intestine is indicated. If the skin is hot and dry and uræmic symptoms (usually represented by anuria, somnolence, amblyopia, and headache) are present, resort may be had to the hot pack either wet or dry. In these cases it is preferable to have the child wrapped in a blanket and placed directly in a tub containing water at a temperature of from 105° to 107° F.; it should be kept in the water fifteen or twenty minutes, or even longer if necessary, then be taken from the wet blanket, enveloped in hot, dry blankets, and kept in them until the skin has become moist and reaction has taken place. While the child is in the bath, milk may be

given, and stimulants if they are indicated by a weak and intermittent pulse.

Hydrochloride of pilocarpine in doses of $\frac{1}{20}$ to 1 grain may be given by the mouth to a child of 2 years, and subcutaneously if desired to a child 5 years of age. In these cases of threatened uræmia convulsions sometimes appear quite suddenly. Under these circumstances enemata of hydrate of chloral, from 5 to 10 grains dissolved in water, are of value in controlling the nervous phenomena; but Rotch prefers a combination of bromide of potassium and hydrate of chloral. Where the ascites is extreme, paracentesis abdominis is often of great value, not only in relieving the pressure, but also in increasing the action of the diuretic, which, perhaps, before was not acting freely. Digitalis is a valuable remedy, especially adapted to the treatment of the nephritis of scarlet fever and to that of the cardiac changes which result from it. By the administration of this drug the flow of urine is increased; but is best given in the form of a freshly-prepared infusion, in teaspoonful doses every four hours, to a child 5 years old. Nitroglycerin is valuable where the action of the heart suddenly becomes feeble and irregular.

Pujador³ also advises hypodermic administration of turpentine, with bicarbonate of soda added to it to prevent local irritation at the point of injection, in doses of 1 gramme daily for a child of from 3 to 6 years or 3 grammes, at the utmost, to an adult. If not well borne it may be given in capsules or emulsion. It prevents the occurrence of nephritis, or arrests it if it has already appeared.

Wiglesworth⁴ gives carbolic acid as

¹ Munch. med. Woch., No. 3, '98.

² Boston Med. and Surg. Jour., May 27, '97.

³ La Méd. Infant., Sept., '97.

⁴ Lancet, Lond., Oct., '97.

soon as the disease is suspected—laying great stress on the fact that the treatment must be begun early—in doses of from 1 to 6 grains according to age, freely diluted with water, and repeated every two hours as long as the rash remains visible. He then reduces the dose and the frequency of administration till convalescence is established. He claims to have pursued this practice for sixteen years with almost uniformly good results. He also gives the drug in the same doses as a prophylactic to other children, and, as soon as the color of the patient's urine shows that he is "carbolyzed," he allows other children to associate freely with him, with the certainty they will not take the fever at all or will take it very mildly.

Alfaro¹ prevents nephritis in scarlet fever by promoting free diuresis, adherence to strict milk diet, plenty of drinks, and cold hydrotherapy in severe cases. And further he strives to avoid the elimination by the kidneys of any irritating substance either from medication or from the food (inhibits phenolsalicylic acid, antipyrine, acetanilid, etc.) by keeping the functions of the skin as active as possible by general friction with fatty substances and tepid bath during desquamation; by keeping the mouth, nose, and pharynx aseptic with frequent mild antiseptic applications to prevent the introduction of the streptococcus into the general circulation; by avoiding sudden or continued exposure to cold air. Lastly, he insists that no antipyretics or antiseptics shall be employed that can possibly affect the kidneys injuriously by elimination or absorption.

Scarlatinal Nephritis.—Kontrebinsky says that the generally admitted pathogenesis of post-scarlatinal nephritis is autoinfection from the scarlatinal virus

whose toxic products can no longer be eliminated by the diseased kidneys. The chief aim should be to prevent the retention of these products by the organism, in two ways: (1) by combating the nephritis itself; (2) by heightening the excretory function of the skin and the intestines, or supplementing them by suitable means. To fulfill the first indication—i.e., to lessen the formation and spread of the toxins—the most efficacious means are: more or less absolute milk diet, according to the gravity of the case, combined with hydrocarbons; proscribing absolutely meat and eggs; rest in bed for three weeks at least; alkaline waters, Vichy particularly; pure air, constantly changed. The second indication is met by giving diaphoretics and purgatives and using other means to heighten the activity of skin and bowels for the elimination of the toxins, thus relieving the kidneys. As soon as albuminuria disappears, cutaneous perspiration also increases; to aid in this increase have recourse to warm baths and hot compresses—the air of the room should be uniformly warm: 95° F.—for fifteen to twenty minutes at a time; purgatives, enemata of warm water, and infusion of senna. Calomel is to be avoided.

TONSILLITIS, ACUTE.

Etiology.—Taylor² thinks febrile and other remote symptoms of this disease are due to a primary lesion.

Treatment.—Cleanse the tonsils, as far as possible, by a swab; then direct into each crypt a blast of air through a fine tube to blow out organisms, etc. Next spray the crypts with 1 to 3000 sublimate solution; finally paint the

¹ Anals del. Circ. med. Argentino, Oct. 15, '97.

² Jour. de Clin. et de Thérap. Inf., No. 1, '97.

³ Jour. Amer. Med. Assoc., No. 6, '97.

tonsil with nitrate of silver, 40 grains to the ounce of water. Iodine is not to be recommended in acute stages.

Kramer¹ employs parenchymatous injections of carbolic acid in severe tonsillitis, particularly where it is thought that there is a tendency to abscess-formation. The part is made completely anæsthetic by cocaine, a sterilized needle attached to a Pravaz syringe gently introduced into the gland, and through this is injected from 7 to 15 minims of a 2- to 3-per cent. solution of carbolic acid. This may be repeated once or twice a day.

UTERUS, RUPTURE OF.

Donald² was called to a non-gravid woman who had been treated for uterine hæmorrhage. She was in extreme collapse, very blanched, with a pulse of 150 as far as it could be counted; respirations shallow and sighing. On vaginal examination the finger passed into the uterus and then through an aperture in its posterior wall into the abdominal cavity and into the tissues of the left broad ligament. Under anæsthesia the parts were carefully disinfected, and an opening made with a snip of the scissors through the posterior vaginal fornix into the pouch of Douglas, which allowed the escape of a large quantity of fluid and clotted blood that had collected, and permitted the nature and extent of the tear to be made out from the peritoneal aspect. The uterus was then rapidly excised by Doyen's method, being first split up into two halves, each half dragged down to the vulva and pressure-forceps placed on each broad ligament from above downward. The points of the forceps were then turned up into the pelvis, and the gap in the vaginal vault packed with iodoform gauze. Hysterectomy was selected in place of sutur-

ing the tear or plugging with gauze, because of the rapidity with which it could be carried out and of the security against further bleeding. The advantage of pressure-forceps over ligature in cases in which rapidity is essential must be obvious. Donald thinks that this method might be adopted with advantage in some cases of rupture of the uterus during labor. The great advantage of the vaginal, as compared with the abdominal, incision lies in the almost complete absence of shock.

Metcalf³ refers to a case of spontaneous rupture of the non-pregnant uterus, the "only one recorded" (he thinks), due to tubercular degeneration. Some writers declare that it may be caused by carcinoma, and some early writers report instances of rupture during early pregnancy, always in a horn of the uterus, but all such, Metcalf thinks, are open to suspicion as cases of extra-uterine pregnancy.

VOMITING, INTRACTABLE.

The uncontrollable vomiting after abdominal section is believed by Thompson⁴ to be, almost invariably, an evidence of interference in the circulation of some vital organ. Its presence is far more ominous than that of an abnormal pulse, an embarrassed respiration, or a rising temperature; and, when it has persisted more than twenty-four hours without abatement, he believes reopening of the abdominal cavity should be seriously considered, with the view of relieving some internal strangulation or tension.

Greene⁵ speaks highly of the good effects of hourly hypodermic injections of $\frac{1}{40}$ grain of morphine in otherwise-

¹ Schmidt's Jahrb., Jan., '97.

² Lancet, Lond., Mar. 5, '97.

³ Atlan. Med. Week., Dec. 25, '97.

⁴ Medical Age, April 25, '97.

⁵ Brit. Med. Jour., vol. II, '97.

intractable vomiting. If this and all other possible measures fail, and life is seriously endangered, he suggests intubation of the larynx with a special modi-

fication of O'Dwyer's tube. If this be unsuccessful, tracheotomy is the last resort. The idea is that vomiting is impossible if the glottis be kept open.

Editorial.

THE amount of current and review literature at our disposal is so great that the space usually employed for editorials will henceforth be utilized for the accommodation of the excess of matter whenever it is deemed necessary for the best interests of our readers. Editorials will be reserved for the consideration of especially important questions relating to any of the subdivisions of progressive medicine and surgery.

Cyclopædia of Current literature.

ABDOMEN, RARE PENETRATING WOUND OF.

A rare injury occurred to a Burmese male aged 30 years. While squatting Eastern fashion in a corner of the house with his back to the wall, some one outside stabbed him in the buttock through the thin bamboo matting that formed the side of the dwelling, making a transverse wound $1\frac{1}{2}$ inches long at the level of the lower end of sacrum and just to the right of the middle line. A probe passed about one inch and impinged upon bone. Examination of rectum revealed no injury. Pulse good; no evidence of shock; little pain. Eleven hours later he was moribund, his abdomen distended, and signs of much fluid within it. He died shortly afterward.

On autopsy the track of the wound was found to pass between the sacrum and the coccyx. The floor of the pelvis to the right of the rectum was perforated, and a coil of small intestine about midway between the stomach and great

intestine, hanging in the recto-vesical pouch, was wounded. The abdomen contained a great quantity of blood, the source of which was not demonstrated, but probably came from the right iliac vein or one of its large tributaries. Duer (*Lancet*, Lond., Mar. 5, '98).

AMBLYOPIA, RARE.

Though various kinds of toxic amblyopias are recognized, yet, with the exception of those due to tobacco and alcohol, the affection is rarely met with. A man, aged 46, found his eyesight failing for more than a year; he was strong, healthy, and had seemingly always led a very regular, methodical, temperate life. He smoked a pipe of strong tobacco after each meal, and drank one glass of beer at dinner. Beer and tobacco were stopped, but he did not improve. Finally the fact was elicited that for years he had consumed daily twelve cupfuls of strong cheap tea. The latter habit was suspended, the beer and tobacco

resumed, and from that moment vision gradually and steadily improved. Campbell (Lancet, Lond., Mar. 12, '98).

BERIBERI.

Pathology.—Three kinds of bacilli were found in tissues carefully secured from cases of beriberi in Senegal. One is a large bacillus six to ten microns in length and three-tenths to four-tenths micron in width, which is found especially in the kidneys; second, a medium-sized bacillus, three to four microns long and three-tenths micron wide, seen especially in certain vessels, as those of the kidney; the third is a very small bacillus, occurring in enormous numbers in the blood. The first two are probably of the same nature; as to the third, it is probably derived from the others. Nepveu (La Sem. Méd., Feb. 2, '98).

BLEPHARITIS.

Treatment.—Picric acid is extremely useful in blepharitis. During three months it was employed with very good results in different cases, and in some in which other treatment had shown no tendency to cure. It is, perhaps, best employed in solutions of 5 or 10 in 1000 parts; also with glycerin to render the preparation more adherent to the ciliary borders. The yellow staining of the skin by the acid is no drawback, since it soon passes away. Fage (L'Echo Méd. du Nord., Jan., '98).

CHELIDONINE.

This alkaloid, obtained from *chelidonium majus* has been offered as a substitute for morphine to relieve pain. Report of six patients suffering from carcinoma of the stomach, one each from tabes dorsalis, osteomalacia, and arthritis fungosa, who received vary-

ing doses of the sulphate—from 1 to 6 grains daily—without any result. Guth (Therap. Monatshefte, H. 10, '97).

COCAINE POISONING.

Symptoms.—A robust man, aged 40, took, by mistake, two hours after dinner, 10 grains of cocaine muriate along with an equal quantity of ammonium bromide. Within five minutes he expressed himself as feeling wonderfully well; half an hour later he felt "very funny," and complained that hands and feet were numb and that he seemed to be walking on cotton-wool. This was followed by spasmodic jerkings of the limbs preceded by a sense of restraint. His jaw troubled him by "rattling" and his mouth appeared dry,—in reality it was anæsthetized. The eyeballs were notably protuberant and perfectly immobile, evidently from paralysis of the motor oculi muscles.

The levatores palpebrarum were unaffected; pupils fixed in the state of semidilation; facial expression very haggard. While in this state 3 drachms of wine of ipecac were given with warm water, which caused emesis. About forty minutes after the poison was ingested, speech became quick and hurried; the breathing very oppressed—the oppression being principally on expiration—and gradually increased until the rate sank to about 8 per minute; but there was no cyanosis, possibly from the fact that the pulse had increased in rapidity to 120 per minute and was full and bounding.

Treatment.—As the breathing became worse, $\frac{1}{10}$ grain of strychnine and $\frac{1}{100}$ grain of digitaline were given hypodermically. The effect was immediate: the respiration was relieved, though the pulse-rate remained as before; and from this time the danger seemed less immi-

ment. The breathing, at times, became labored, but never again to the extent it had reached prior to the administration of the antidote. The subsequent history of the case was one of gradual improvement, aided, doubtless, by cupfuls of strong, hot coffee, which was comforting and seemed to stimulate the respiratory apparatus. About two hours after ingestion of the cocaine the patient again commenced to vomit and passed large quantities of urine, but whether from the poison or from the treatment could not be determined. Urination was performed without difficulty, but there seemed to be an inappreciation of relief natural to the removal of the tension of a full bladder. Perspiration throughout was very free. The knee-jerks were not absent, but appeared defective. The total duration of the symptoms was about seven or eight hours. The next day the patient, though languid, was able to resume his occupation.

It would seem, from this case, that cocaine is, in a measure, selective: first, the nerves of the motor oculi muscles were affected; secondly the vagus; and lastly the nerves to the mucous surfaces and the skin.

Is it not possible that instillation of cocaine into the eye may be of value in those troublesome cases of idiopathic nystagmus that are met in general practice? Palmer (*Lancet*, Lond., March 12, '98).

CRUSTA LACTEA.

Treatment.—Benzoated zinc-oxide ointment is an excellent application to relieve the local distress that accrues to infantile eczema. Fowler's solution of arsenic should be given internally, along with ammoniated iron citrate; attention should also be paid to the connection of indigestion and malassimilation and to

the restoration of strength. Kistler (*N. Y. Med. Record*, Feb. 12, '98).

CORNEAL ULCERS.

Treatment.—Great benefit is promptly obtained from the following:—

R Santonin, $\frac{1}{4}$ grain.
Calomel, 1 grain.
Sugar of milk, q. s.

giving one every hour, following the last fourth with a dose of castor-oil.

After full operation of the remedy and restriction of diet to nourishing food, the disease rapidly disappears. Hansell (*Phila. Polyclin.*, March 26, '98).

CORYZA OF CHILDREN.

Treatment.—One drop of a 2-per-cent. solution of cocaine (in equal parts of distilled water and glycerin), instilled into each nostril three or four times daily with a medicine-dropper, causes immediate opening of the nasal passages; so that the child can readily breathe through the nose and rhinoscopy can be carried out. This method is not dangerous, and the effect can be readily estimated by watching pupillary dilatations. It may be employed even for nurslings. Naegeli-Akerblom (*Ther. Woch.*, No. 57, '97).

ECZEMA.

Treatment.—Carefully cleanse the affected surfaces by constant application, for a longer or shorter period of time, of cold potato poultices, often renewed, and cover with elastic tissue, no antiseptic being added. When the surface has been thoroughly cleansed, scarify with a sharp point in parallel lines, one to two millimetres apart, down to the superficial layer of the derma. Allow blood to flow freely, and ever promote

the hæmorrhage by application of tepid, boiled water; the surface is then to be dressed with a few folds of tarletan steeped in boiled water until potato poultices can again be applied. These latter are kept in place three or four days, when every trace of scarification has disappeared. Carried out in this manner the scarifications are well borne, even by children. The invariable result is that a few minutes after the operation there is increase of redness, with slight tension and heat; these phenomena last one, or, at most, two days, after which redness, swelling, heat, smarting, and itching are distinctly less than before. By this method, eleven cases of eczema of different kinds, all of which had proved refractory to other recognized modes of treatment, were cured. Among these were 3 cases of lichenoid eczema (of the dorsum of the feet, of the hands, and of the forearm); 1 old bilateral eczema of the pre-auricular region; 3 of the face in adults, and 4 in the face of children. Six to seven scarifications, according to the nature of the case, are required, and, as a general rule, the resistance to the treatment increases in a regular ascent from acute eczematization to lichenoid eczema. Jacquet (*La Sem. Méd.*, Mar. 2, '98).

A small piece of buckskin placed between the ointment and the remainder of the dressing is recommended. It is flexible, which permits of its accurate molding to the diseased area, and it does not absorb much of the ointment, and thus keeps the parts moist. Finally it does not adhere to the newly-formed cutis, as linen does, or produce cutaneous irritation like rubber. Darezac (*Jour. de Méd. de Bordeaux*; *N. Y. Med. Jour.*, Feb. 12, '98).

A case was cured by two months' use of the following:—

EUSTACHIAN INFLAMMATION.

R Oil of cade, 5 parts.
Zinc oxide, 10 parts.
Green soap, 10 parts.
Vaselin, 10 parts.

Also a mercurial plaster was applied at night. Block (*Deut. med.-Zeit.*, Jan. 3, '98).

EMETICS.

This class of drugs is too much neglected. Emetics, besides clearing the bronchi, increase oxidation. The gaseous changes in respiration are increased in every detail, this action being partly mechanical (a larger quantity of air passing in and out) and partly vital (there being a greater amount of oxygen absorbed and more carbonic-acid gas given out per volume of expired air). Emetics are of the same value in infective bronchitis as purgatives in intestinal affections, while there are few contra-indications. Robin (*Bull. de l'Acad. de Méd.*, No. 4, '98).

ENURESIS.

Treatment.—Persistent nocturnal incontinence in women may be treated by distending the bladder at a low pressure with boric-acid solution and then passing a constant current through the bladder by placing the negative pole in the irrigating fluid and the positive over the lumbar spine. One case cured after some twenty years' persistence, and the capacity of the bladder raised from 4 to 20 ounces. Nason (*Brit. Med. Jour.*, Feb. 8, '98).

EUSTACHIAN INFLAMMATION.

Etiology.—Natural gas is a potent factor in causing catarrhal inflammation of the whole pneumatic system, with special reference to the Eustachian tube.

Symptoms and Diagnosis.—The symptoms referable to the ear are not typical

of acute catarrhal inflammation, but are rather of a subacute form; the disease may, however, assume a chronic form. The deafness that arises may be differentiated from catarrhal deafness *per se* by the ease with which the patency of the tube and mobility of the drum are restored.

The throat symptoms in the chronic form resemble those of clergyman's sore throat.

Treatment.—In the acute stage this is palliative and sedative; but little success will result unless lights from jets are condemned and oil or electricity substituted. Politzer's method should be employed, condemning the cannula; also hot application and massage, which relieve congestion and promote absorption of any serous exudate within the middle ear. Frequently a change of surroundings is absolutely necessary. In the chronic stage absolute reliance is placed on the galvano-cautery. The stenosis of the tube calls for inflation through the Eustachian catheter, with soothing injections and massage of the drum. The septal hæmorrhage that occurs in this form, owing to the formation of crusts and the habit of picking the nose, may be relieved by destruction of the superficial blood-vessels by means of the actual cautery or a strong solution of silver nitrate. The crusts are softened and healing stimulated by yellow-oxide-of-mercury ointment, or ichthyol, 3 per cent., in lanolin. Kyle (Jour. Amer. Med. Assoc., March 19, '98).

EXOPHTHALMIC GOITRE.

Pathology.—The enlargement of the thyroid gland may be regarded as compensatory, for the changes are identical with those produced in the remaining part of the thyroid in animals after the removal of a part of the gland. Re-

searches seem to show that the thyroid has no secretory nerve corresponding to the chorda tympani, and that any nervous influence that may exist is not central, but due to ganglia either in or in the immediate neighborhood of the gland; and, further, that, at least, the enlarged thyroid is not primarily of central nervous origin. Regarding the functions of the parathyroids in dogs, it seems as if they had as much—or more—to do with saving the animals from acute myxœdema as the thyroid proper. Experiments on monkeys showed that the extract of sheep's thyroids might keep off and relieve the symptoms following thyroidectomy, but could, as a rule, not save their lives. Edmunds (Jour. Path. and Bac., Jan., '98).

Symptoms.—In two cases both lobes of the thyroid were invaded with marked tachycardia; pulse, 100 to 130; leukæmia; some œdema of ankle and eyelids; no albuminuria nor heart-valve disturbance, but headache and great restlessness.

Treatment.—The positive electrode moistened with a saturated solution of potassium iodide was applied to the gland and the cathode to the nape of the neck, for five to ten minutes every other day for six weeks, using a current of four milliampères. At the end of this time the gland was reduced to its normal size; pulse, 78 to 80; restless sleep; increased body-weight; disappearance of headache. Page (Jour. Electro-therap., Feb., '98).

Jonnesco, Faure, and Abadie (Le Progrès Med., Oct. 23, '97) all advocate section of the cervical sympathetic as the surest and safest; Abadie thinks that simple section is all sufficient, but the other two advocate resection and extirpation of the ganglia.

GASTRIC ULCER.

Treatment.—Excellent results have been secured by giving large doses of bismuth,—30, 40, even 50 grains three times a day,—suspended in water, after ordinary doses had failed to be of benefit. Under these the pain was rapidly relieved, vomiting ceased, digestion improved—allowing light, nitrogenous food, such as fish or fowl, to be given—and the ulcer quickly healed. The bismuth sometimes caused a little pain and diarrhoea, but never constipation. The treatment was employed chiefly in chronic cases, but in some of the acute variety after recent hæmatemesis it also proved successful. In acid dyspepsia, too, it rapidly relieved the symptoms. There are certain dangers and inconveniences that attend the use of the stomach-tube and lavage, but in some cases such a procedure seems imperative: here it is best, after lavage, to inject from 300 to 450 grains of bismuth suspended in water through the tube. Dreschfeld (*Lancet*, Lond., March, 5, '98).

GENU RECURVATUM.

Etiology.—A lad, aged 17, had been treated, when 5 years old, for an abscess in the right thigh. After this had been opened, there was, during two years, a continuous discharge from two openings which, when finally closed, were replaced each by a permanent scar, one superficial and mobile, on the front of the thigh, the other depressed and fixed to bone, on the outer surface.

Pathology.—The deformity, which developed slowly after the complete healing of the abscess, was characterized by marked hyperextension of the right leg, which formed with the thigh a retiring angle of 160°. When the patient was recumbent on his back, the only portion of the right limb which touched the

couch was the popliteal region.—The patella was elevated far above the knee, and fixed in front of the thigh. The muscles of the thigh were much wasted. The leg was fixed, and the affected limb shorter than its fellow by a little more than two inches. A stiff and tense cord, evidently formed by the lower half of the quadriceps muscle stretched from the middle of the thigh to the patella. It was assumed that the previous suppurative affection—probably of osteomyelitic origin—had resulted in abnormal adhesion of the extensor muscles to the front of the femur, and that the portion of the quadriceps intervening between two fixed parts—namely, its insertion below and its adhesion to the bone above—had been prevented from keeping pace with the femur in the vertical growth of the limb; and had thus produced slow and continuous hyperextension.

Treatment.—It was decided to separate the adherent portion of muscle from the bone, and thus to overcome the hyperextension, and to re-establish normal relations of the articular surfaces of the knee. An operation, which consisted in subcutaneous detachment of the quadriceps from the femur, and in division of the tense cord formed by the lower part of the muscle, was followed, after a time, by satisfactory results. The limb was restored to the normal position, and almost to the length of the sound limb, and there is now a fair, though not complete, range of the movements of flexion and extension at the knee. Marchant (*Rev. d'Orthopédie*, No. 1, '98).

GONORRHOEAL ARTHRITIS.

Treatment.—Local applications are usually recommended, fomentations of turpentine being possibly the most typical. Quinine hypodermically and in-

ternally is the best remedy against infections, in general, and also because the results seem to indicate that it has a specific action on the gonococcus. We may reject Bouchard's "pseudorheumatism" and Gerhardt's "rheumatoid arthritis," and call these affections by the name of the inducing affection. Maragliano (*Gaz. de Osp. e d. Clin.*, Feb. 6, '98).

HÆMATOMA OF VULVA.

A woman, aged 42, was easily delivered of her ninth child shortly after the membranes had ruptured. The placenta came away spontaneously. She went to sleep, and awoke with a feeling of tenseness in the perineum. Three hours later was discovered an hæmatoma as large as a foetal head in the left labium and behind the vagina on the left. Three weeks later it burst through the inner side of the left labium; then it was emptied and the tampon applied. Two weeks subsequently to this operation the patient was quite well, but a painless, resistant mass could be felt for a long time toward the left side of the pelvic wall. There were no varicose veins in the neighborhood of the genitals during pregnancy and labor, and no history of hæmorrhagic diathesis. Wettergren (*Hygeia*, Stockholm, vol. lviii, Part 2, '98).

HYDROCELE.

Treatment.—The old method of injection of iodine causes a very painful inflammatory reaction, and, in common with the more recent treatment by incision and drainage, necessitates prolonged rest in bed and does not insure freedom from relapse. Instead, make a free incision into the sac, apply a 3-per-

cent. solution of carbolic acid to the surface of the exposed testicle and the whole of the inner surface of the tunica vaginalis, and stuff the cavity with strips of iodoform gauze. After removal of the gauze on the third or fourth day, the wound in the skin is closed by catgut sutures. Of 18 cases treated by this method, the patients having been seen after intervals between eight months and five years from the date of operation, in 1 only was a relapse noted—this was a case of very large hydrocele in a man aged 64 years. Block (*Rev. de Chir.*, Feb. 2, '98).

Hydrocele of the tunica vaginalis is best treated by puncture and injection of a 1 to 1000 solution of sublimate. The injection only causes a little pain in the thighs, and the fluid disappears in about a fortnight. Two injections of sublimate, without alcohol, should follow the puncture, and, lastly, a boric-acid solution injected. Twenty-seven cases thus managed were all successful. Etienne (*Gaz. des Hôp.*, Jan. 8, '98).

The advantages of the open method—i.e., incision, suturing of the vaginal tunic to the skin, and continued drainage—are: the operation can be made absolutely painless by the use of weak cocaine solutions and can be performed in the office; there is no inflammatory reaction; patients are not confined to bed and are not even prevented from attending to their usual business callings; the testicle is less likely to be injured than is the case when inflammatory reaction is set up by injections of iodine or other irritating agents; and the cure is more likely to be radical. The dressing is extremely simple, consisting of a thick mass of sterile gauze held in place by a suspensory bandage. Martin (*Phila. Polyclinic*, March 26, '98).

HYSTEROTOMY, SPHINCTERIC.

Division of the sphincter is more effectual than amputation of the cervix in causing involution of the uterus, and, consequently, of ameliorating certain forms of metritis and of uterine deviation. Sphincteric hysterotomy is indicated in cases in which it is necessary to insure evacuation of the contents of the uterine cavity; to facilitate involution of the uterus; and to prevent the upward extension of any infective process toward the oviducts. It is regarded as a measure of radical treatment in cases of metritis and of affections of the uterus complicated by septic inflammation, particularly uterine flexions and dysmenorrhœa of uterine origin, and also advanced retraction of the cervix. It acts by allowing complete evacuation of the uterine cavity, and by facilitating involution of the diseased organ. The operation, which is quite a harmless one, has had good results after the failure of dilatation and curetting. It should be practiced only in cases in which the expectation of conception no longer exists, or when the gravity of the affection leads to a disregard of inconvenient consequences in this respect. An autoplasmic operation may in certain cases re-establish the uterine sphincter, and favor the possibility of pregnancy. Defontaine (*Archiv Prov. de Chir.*, No. 2, '98).

ILEUS, COMBINED.

Pathology.—In four cases the occlusion was caused by several constrictions from adhesions involving the small intestines complicating a cancerous stricture of the transverse colon. As the removal of one did not bring relief, the others were sought and found. In one case there was an ectopic testis; the patient recovered after the fourth operation. In all, the transverse colon was

much thickened, while the rest of the walls of the large intestines were normal. In operating the obstruction in the small intestine must first be removed and colostomy established, proceeding later to the ablation of the carcinomatous tumor of the large intestine. Hochenegg (*Wien. klin. Woch.*, Dec. 23, '97).

INTESTINAL INVAGINATION OF INFANTS.

Treatment.—Of 12 cases, 2 were cured by energetic massage, enemata, and insufflation of air. Of 7 operated on during the first two days, 2 died from shock and 5 recovered. Three were operated on after the second day, all dying from gangrene and consecutive peritonitis. From a review of 184 cases in literature it may be concluded that in operating great care must be practiced to avoid hernia later. In a case of gangrene there should be resection, enterotomy, and entero-anastomosis; but infants under a year cannot stand such a serious operation and those over a year but little better. Cordna (*Gaz. de Osp. e d. Clin.*, Jan. 27, '98).

KIDNEY, EFFECT OF PEPTONES AND ALBUMOSES ON.

Pathology.—These substances do not exert so great an influence on the walls of the renal blood-vessels as they do on other vessels of the splanchnic area. They cause a marked increase in the secretion of urine, the maximum occurring during the second hour after injection. The urine secreted is dilute, its percentage of urea and total nitrogen being diminished. The total amount of urea and nitrogen is, nevertheless, considerably increased.

Part of the peptone (or albumose) is excreted during the first hour after injection, but the greater part appears to be retained. The amount as retained,

however, is not sufficient to supply enough nitrogen for the increased output of urea and other nitrogenous compounds. Thompson (*Lancet*, Lond., March 12, '98).

LARYNX, CHRONIC STENOSIS OF.

Etiology.—Chronic stenosis of the larynx may arise from a variety of causes: syphilis, wherein destruction of epiglottis and arytenoid and cricoid cartilages may cause suffocation; chronic infectious maladies, such as tuberculosis, lupus, lepra, etc.; acute infectious diseases; traumatic injuries.

Treatment.—Catheterism of the larynx, as O'Dwyer's method of intubation; dilation with bougies, either downward or upward; divulsion; operations, such as laryngo-fissure, for the later introduction of the tubes. In six cases the results of intubation were good, but only in two was a complete cure had and the tracheal tube removed. Kjeer (*Hospitalstidende*, '97).

LEUKÆMIA.

Pathology.—Small patches of degeneration of parenchymatous character found scattered over the surface of a spinal-cord section in two cases. There was no affection of the gray matter or of the vessels. In one case there was slight sclerotic change in the posterior columns. There were apparently no nervous symptoms corresponding to these changes. These same changes were also noted by Schultz, who found them also in chronic nephritis. Degeneration of the posterior columns of the cord has been found in anæmia and also in phthisis. Nonne (*Neurol. Centralb.*, Feb. 15, '98).

LUPUS.

Treatment.—Especially in old tuberculous and ulcerating lupus, injections

of five centigrammes of calomel every tenth day often produce remarkable cures, the improvement being evident from the first. The lymphatic infiltration and exudation processes are arrested, and then retrogress. In twenty-five cases calomel injections proved most valuable adjuvants to the usual treatment. The success in genuine non-syphilitic lupus deprives calomel injections of their hitherto assumed values as a diagnostic measure in syphilis. Asselberg (*Ann. de Derm. et de Syph.*, Jan., '98).

MIGRAINE.

Etiology.—Many, if not most, of the cases of migraine are lithæmic in their origin. A history of irregular gout or rheumatism which is hereditary can often be had. Lithæmic migraine differs in no particular from that due to other causes. Premonitory symptoms, generally of the special senses, are common.

Symptoms.—The headache begins as a burning spot about the cheek, eye, or temple, from which it spreads until the whole side of the face and head is involved. Redness of the affected side, particularly of the upper part of the face and ear can be noticed. Nausea and vomiting are commonly present, but the attack may be strictly confined to the head. Numbness of the affected side, associated with a sensation of tingling, is noticed in most cases. The attacks may last from a few hours to several days, and may be precipitated by gross errors in diet. Narcotism following immediately upon an attack of migraine is not uncommon, although not so frequent as after bilious paroxysms.

Pathology.—The work of Rachford upon the urine of patients suffering from migraine is particularly interesting. After paroxysms of this nature he has been

able to separate two of the xanthin bases in considerable quantity from the urine, and by injecting these substances into the lower animals has induced attacks very similar to migraine in human beings. Barnes (*Medical Record*, March 26, '98).

NERVE-SUTURE.

Case of paralysis of the musculo-spiral nerve successfully treated by suture of the peripheral end of the injured nerve to the median. The patient was a boy, 5 years old. The severe wound associated with a fracture of the arm healed well, but a paralysis of the musculo-spiral resulted. At operation it was found that the two ends of the divided nerve were wide apart. The median nerve was therefore searched for, and a flap (base upward) of half of the thickness of the nerve was separated from the trunk and sutured at its distal extremity to the peripheral end of the musculo-spiral. The wound united by first intention, but the paralysis was not at first modified. The case was lost sight of for two years, but at the end of that time the paralysis was found to have almost entirely disappeared. Seck and Saenger (*Archiv f. klin. Chir.*, vol. liv).

PERITONITIS, CAUSE OF DEATH IN.

In peritonitis its probable fatality arises from absorption of septic poison from the peritoneum, which poison acts chiefly on the circulation; the immediate cause of death is vasomotor paralysis. In addition to operative procedures, it might be well to attempt to obviate the vasomotor paralysis by transfusion and the administration of drugs that raise blood-pressure. Wilson (*Lancet*, Lond., March 12, '98).

PERTUSSIS.

Treatment.—Inject subcutaneously, every day, 35 minims of the following:—

R Guaiacol,
Eucalyptol, of each, 1 part.
Sterilized olive-oil, 10 parts.—M.

Chateaubourg (*Centralblatt f. d. Gesamte Therapie*, Feb., '98).

POTT'S DISEASE OF SPINE.

Treatment.—Immediate reduction of deformity, as recommended by Calot, is suitable only in carefully-selected cases. Generally speaking, the lower dorsal and lumbar curves are the most suitable for this method of reduction. It is certainly contra-indicated when tuberculosis is present elsewhere, when there is much wasting, when the child suffers from some respiratory disorder, when abscesses are present, when ankylosis has taken place, when considerable alterations in the bony frame-work of the chest have occurred, when the patient is more than twenty years of age, and when the curves are in the cervical region. The results of respiratory embarrassment are so serious that I have modified Calot's method by substituting for the plaster corset a special splint modeled from a Thomas hip-splint, with a head-piece to maintain extension of head and neck; further, the plaster jacket is likely to give rise to pressure-sores, to say nothing of its discomfort in warm weather and the impossibility of keeping either child or corset clean. A. H. Trebby (*Practitioner*, Lond., Jan., '98).

RHEUMATISM, ACUTE ARTICULAR.

Great relief may sometimes be had by applying, with gentle friction, the following:—

- ℞ Salicylic acid, 4 drachms.
 Sodium salicylate, 3 drachms.
 Extract of belladonna, 1 drachm.
 Vaseline, 25 drachms.

When applied, the parts should be well covered with cotton-wool and kept at an even temperature. Lemoine (Nord Méd., Feb. 9, '98).

RIGHT- AND LEFT- HANDEDNESS.

Physiology.—It is probable that the child is born equally expert in both hands and both legs, and that the subsequent superior dexterity of the right hand and foot is due to careful training on the part of the nurse or parent. Left-handedness is probably started by a burn, strain, or injury of the right hand during the critical period of babyhood. It is of great advantage to anyone, especially the surgeon, to cultivate ambidexterity, and Alexander Mott, Joseph Pancoast, Samuel F. B. Morse, Leonard da Vinci, and Michael Angelo were notable in this respect. The crossed fibres to either brain are probably a form of "switching-off" apparatus, intended only for temporary use, and all arguments based on anatomy as forcing right-handedness are probably weak. George M. Kellogg (Jour. Amer. Med. Assoc., Feb. 12, '98).

SENILE GANGRENE.

Treatment.—When the gangrene is limited to one or two toes and the patient's condition is satisfactory, be content with the expectant plan of treatment, taking precautions to lessen or prevent the effects of local septic infection. When, however, the gangrene has reached the metatarsus be prepared to perform amputation above the knee, or, in rare and favorable cases, through the knee-joint itself. The local treatment in limited forms of gangrene

should consist in thorough cleansing of the foot and leg, free dusting of the immediate vicinity of the dead part with iodoform, and the application over this powder of sublimate or salicylic wool. The use of artificial heat in the form of poultices and fomentations must be discarded as not only ineffectual, but positively mischievous. Pain may be relieved by the internal administration of opium and local application of a powder composed of boric acid, subcarbonate of bismuth, and muriate of morphine. A case is reported of amputation through the lower third of the thigh for gangrene of the leg, in a man, aged 57, who a fortnight after the operation was pronounced to be out of danger and making a very good recovery. Jones (Med. Chron., Jan., '98).

SPERMATIC CORD, SPONTANEOUS TORSION OF.

This occurrence is something more than a mere curiosity, for, in a case recently reported to the Paris Anatomical Society, it was mistaken for strangulated hernia. An operation was undertaken, but, in place of a hernia, there was found a twist in the spermatic cord that had led to gangrene of the testicle, which had to be removed. The testicle was not displaced and the patient had not had gonorrhœa. The cause of the torsion was not ascertained. Barozzi (Gaz. Heb. de Méd. et de Chir., March, 3, '98).

SUPPURATIVE INFLAMMATION.

Sodium bicarbonate in 2-per-cent. solution, tried many times, invariably stopped the pain and the suppuration and effected a cure without drainage. Georzensky (Med. Rec., March 26, '98).

TACHYCARDIA.

Etiology.—In certain cases of so-called "nervous" palpitation the underlying cause is uræmic intoxication. In other cases the tachycardia is the first symptom of exophthalmic goitre, and

precedes, by many years, the other symptoms. Of fifty-five cases of Graves's disease thirty-four came under this heading. Curtin (*Internat. Med. Mag.*, Feb., '98).

Book Reviews.

TRAITEMENT DES FRACTURES PAR LE MASSAGE ET LA MOBILISATION, LE DR. J. LUCAS-CHAMPIONNIERE. Morocco, Square Octavo, pp. 564. Rueff et Cie, Paris.

The author is so well known, both at home and abroad, for the thorough manner in which he treats any subject that tempts his pen, that it seems almost like a work of supererogation to attempt a review of this most complete and interesting work. Dr. Championnière is, moreover, the pioneer in the treatment of fracture by massage and mobilization. He recently exhibited at the Academy of Medicine in Paris a patient¹ in whom a fracture of the lower end of the radius had been treated by this method. There had been a great deal of movement between the bones and it had been found impossible to immobilize the fragments. Massage and immediate movement were found sufficient to restore the power of useful motion and to bring about rapid consolidation of the fracture in a good position. Dr. Championnière took advantage of the occasion to remind his audience that he had employed this method for thirteen years and always with great success, and never during this time had he employed a plaster bandage or any other kind of immobilizing apparatus. In fifty cases of fracture of the clavicle he had obtained by massage far superior results to those given by the most perfect form of immobilizing apparatus. In the case of fracture of the humerus which he showed the fracture was one of the worst kind at a place just above the elbow-joint and comminuted. The man suffered great pain, and the least movements dislocated the elbow-joint. During the first four days the elbow was placed in a molded splint; from the fifth to the eighteenth day the arm was supported by an ordinary sling and after that had no support at all. The mere weight of the limb sufficed to keep the fragments in a good position. From the first day the patient was massaged the acute pains rapidly disappeared. As soon as the limb appeared to be so firmly united that no chance of future displacement was likely the patient left the hospital,—on the twenty-eighth day,—but continued to attend as an out-patient. In place of six weeks, which was the time ordinarily given as necessary for a fractured humerus to unite, the bone in the present case was quite firm in less than three weeks, and in addition to the treatment used was almost painless. During the last two years Dr. Championnière has treated more than twenty cases of similar fractures of the radius, of the scapula, and of the leg. Immobility did not favor repair of the tissues; movement was necessary for repair, for movement was a necessity of life. Finally, Dr. Championnière affirms that immobility as a therapeutic method should be made to disappear from surgery. M. Péan recently confirmed the excellence of the results obtained by Championnière's method. It was especially useful when there was not great displacement of the fragments. If the displacement was too considerable, the lack of any immobilizing apparatus

¹ Report in *The Lancet*, London.

brought about, in his opinion, union in a bad position, which necessitated an operation later. M Labbe considered that massage was excellent in articular and peri-articular fractures, but that there were other kinds of fractures in the middle of a long bone and especially fractures of the lower third of the leg; to treat such in any other way would be to expose the patient to the risk of a false joint forming: a result which has become only too frequent of late years and which M. Labbe attributes to the too general use of the method of Championnière. The latter, in closing the discussion, maintained that immobility appeared to him to bring about a condition of lowered vitality in a limb, while what was an active process of repair. He would move the osseous fragments every time that there was no muscular spasm to pull them out of place, but he agreed with M. Labbe that in a certain number of fractures—notably those of the lower third of the leg—the old fixation treatment ought to be maintained. He has worked out statistics comparing accidents occurring in fractures treated by immobilization and by movement, and found that they were very much more common in the first class than in the second.

Monographs Received.

The editor desires to acknowledge, with thanks, the receipt of the following monographs:—

Annual Reports, Department of Agriculture. Washington, D. C., 1897.—Medical Report, Society of the Lying-In Hospital of the City of New York, 1897.—The Treatment of Carcinoma of the Stomach. J. M. G. Carter, M.D., Waukegan, Ills.—Roentgen-Ray Diagnosis of Pulmonary Tuberculosis and Other Diseases of the Lungs and Heart. By J. Edward Stubbert, M.D., Liberty, N. Y., 1898.—The Inunction of Mercury in Tertiary Syphilis of the Nose and Throat. By St. Clair Thomson, M.D., London, Eng., 1898.—The Operative Treatment of Hæmorrhoids. By Parker Syms, M.D., New York, 1898.—Note on Diastatic Preparations. By W. G. Tucker, M.D., Albany, N. Y., 1898.—Electric Treatment in Gout and the Uric-Acid Diathesis. By Robert Newman, M.D., New York, 1897.—Eczema: Successful Treatment. By J. Hobart Egbert, M.D., Holyoke, Mass.—The Present Status of Puerperal Infection. By R. R. Kime, M.D., Atlanta, Ga., 1897.—Some Practical Thoughts on the Development of the Human Race and Obstetric Nursing. By R. R. Kime, M.D., Atlanta, Ga.—On a Second Case of Removal of a "Pressure Pouch" of the Œsophagus. By H. T. Butlin, England, 1898.—The Virile, or Bulbo-Cavernous, Reflex. By Prof. C. H. Hughes, M.D., 1898.—Acute Inflammation of the Antrum of Highmore. A New Electrical Nasal Saw. By F. C. Cobb, M.D., Boston, Mass., 1897.—Notes on the Non-surgical Treatment of Boils, Carbuncles, and Felons. By L. D. Bulkley, A.M., M.D., New York, 1897.—Difficulties in Determining the Causes of Coma. By J. T. Eskridge, M.D., Denver Col., 1897.—The Antitoxin Treatment of Tuberculosis. By Charles Denison, A.M., M.D., Denver, Col., 1898.—A New Incision for Arthrectomy, Resection, and for Reduction of Irreducible Dislocation of the Shoulder-joint. By N. Senn, M.D., Chicago, Ill., 1898.—On Micrococcus Gonorrhœæ and Infection. By Alexander G. R. Foulerton, 1897.—Treatment of Chronic Empyema of the Antrum of Highmore by Temporary Osteoplastic Resection of the Anterior Antral Wall. By N. Senn, M.D., Chicago, Ill., 1897.—A New Method of Nerve-resection for Amputation-neuroma. By N. Senn, M.D., Chicago, Ill., 1897.—Lumbar Nephropexy without Suturing. By N. Senn, M.D., Chicago, Ill., 1897.—Epidemic Influenza, or La Grippe: Its Different Phases and Nervous Tendencies. By W. O'Daniel, A.M., M.D., Bullards, Ga.,

1897.—Case of Ruptured Tubal Pregnancy; Laparotomy; Recovery. By A. L. Smith, M.D., Montreal, Can.—Experience of Two Hundred and Forty-nine Abdominal Sections. By A. L. Smith, M.D., Montreal, Can., 1898.—Railroad-surgery: Operation and Recovery. By W. O'Daniel, M.D., Bullards, Ga., 1897.—After Gynæcological Operations. By C. A. von Ramdohr, M.D., New York, 1897.—Second Annual Report of the Board of Managers of the Pennsylvania Epileptic Hospital and Colony Farm, 1897.—Our Foreign Trade in Agricultural Products During the Five Fiscal Years of 1893-1897. Prepared by F. H. Hitchcock. U. S. Department of Agriculture, 1898.—Experimental Station Work. III. U. S. Department of Agriculture, 1898.—The Principal Insect Enemies of the Grape. By C. L. Marlatt, M.D. U. S. Department of Agriculture, 1898.—Repairs of Macadam Roads. By E. G. Harrison, C.E. U. S. Department of Agriculture, 1898.—Des Adénoidites Chez les Adultes. Par le Dr. E. J. Moure, Bordeaux, France, 1898.—Traitement Electrique Palliatif de la Névralgie du Trijumeau. Par le Dr. J. Bergonié, Bordeaux, France.—Remarks on Laminectomy, with Report of a Case Done Sixteen Months After Fracture. By Oscar J. Mayer, M.D., San Francisco, 1897.—Some Statistical Observations on the Etiology and Symptomatology of Dementia Paralytica. By A. W. Hoisholt, M.D., Stockton, Cal., 1897.—Multiple Neuritis Following Influenza. By Herman B. Allyn, M.D., Philadelphia, 1897.—The Scholar in Medicine. By J. M. Da Costa, M.D., LL.D., Philadelphia, 1897.—Headaches from Nasal Causes. By Sargent F. Snow, M.D., Syracuse, N. Y., 1897.—Serum-therapy in Tuberculosis. By Hoell Tyler, M.D., Mentone, Cal., 1897.—Sero-therapy in Tuberculosis; Report of Cases Treated with Serum. By Hoell Tyler, M.D., Mentone, Cal., 1896.—Multiple Sarcomata in an Infant. By Augustus A. Eshner, M.D., Philadelphia, 1897.—Two Cases of Epilepsy. By Augustus A. Eshner, M.D., Philadelphia, 1897.—Hysteria in Early Life. By Augustus A. Eshner, M.D., Philadelphia, 1897.—Traumatic Hysteria. By Augustus A. Eshner, M.D., Philadelphia, 1897.—Hereditary Lateral Sclerosis. By Augustus A. Eshner, M.D., Philadelphia, 1897.—Chronic Follicular Tonsillitis. By W. Scott Renner, M.D., Buffalo, N. Y., 1897.—The Bacteriology of Tuberculosis. By Charles F. Craig, M.D., Danbury, Conn., 1897.—On Variations in the Morphology of the Bacillus Tuberculosis. By Charles F. Craig, M.D., Danbury, Conn., 1897.—Notes on the Pathology and Bacteriology of Appendicitis. By Charles F. Craig, M.D., Danbury, Conn., 1897.—Bloodless Vaginal Myomectomy. By Oscar J. Mayer, M.D., San Francisco, Cal., 1894.—Massage in Gynæcology. By Oscar J. Mayer, M.D., San Francisco, Cal., 1894.—Early and Radical Operations in Cancer of the Breast, and A New Symptom for Early Diagnosis. By Oscar J. Mayer, M.D., San Francisco, Cal., 1895.—Treatment of Cancer of the Rectum, with a Report of Twenty-five Cases. By W. W. Keen, M.D., LL.D., Philadelphia, 1897.—Clinical Lecture on An Obscure Tumor of the Abdomen—Amputation of the Breast for Paget's Disease Followed by Cancer—Tuberculosis of the Tonsil and Soft Palate, by a Method Which Avoided Splitting of the Cheek or Dividing the Jaw. By W. W. Keen, M.D., Philadelphia, 1897.—Addresses at the Unveiling of the Bronze Statue of the Late Prof. Samuel D. Gross, M.D., Erected by the American Surgical Association and the Alumni Association of the Jefferson Medical College, Washington, D. C., May 5, 1897.—The Technique of Professor Keen's Surgical Clinic in the Jefferson Medical College Hospital. By Thomas Leidy Rhoads, M.D., Philadelphia, 1897.—Address in Surgery. By W. W. Keen, M.D., LL.D., Philadelphia, 1897.—Literary Methods in Medicine. By W. W. Keen, M.D., LL.D., Philadelphia.—Resection of the Sternum for Tumors, with a Report of Two Cases and a Table of Seventeen Previously Reported Cases. By W. W. Keen, M.D., LL.D., Philadelphia, 1897.

THE MONTHLY CYCLOPÆDIA OF PRACTICAL MEDICINE.

Vol. XII.
Old Series.

PHILADELPHIA, MAY, 1898.

Vol. I. No. 5.
New Series.

TABLE OF CONTENTS.

PAGE	PAGE
INTRODUCTORY NOTICE 161	Calcium Phosphate. Blacklock, Ca- wasjee..... 179
MALARIA AND THE CUBAN CAM- PAIGN (EDITORIAL). Sajous..... 162	Calomel. Waring..... 179
SUBSTITUTES FOR THE CINCHONA ALKALOIDS IN THE TREAT- MENT OF TROPICAL MALARIAL DISEASES 172	Campbor. Waring, Copland..... 179
Drugs of the First Class.	Carbosoate of Ammonia. Clark, Popoff, Bose..... 180
Ammonium Mariate. Pereira..... 172	Castor. Sennertus..... 180
Apioi. Waring, Joret, Homolle, Stock- well, Serré..... 172	Cerevisia Fermentum. Stoker, War- ing, Tweedie, Lamprey, Hugh Ben- nett..... 180
Arsenic. Chapple, Sir Ronald Martin, Adamson, M. Boudin, Roth, Ringer, Butler, Ricchi, du Casal..... 172	Charcoal. Calagus, Calvert..... 180
Bonaset. Goss, Archie Stockwell..... 173	Corn. Pruitt..... 181
Calaya. Manrigo..... 174	Garrya. Smith..... 181
Carbolic Acid. Treulich, Déclat, Des- plats, Ringer, Wood..... 174	Gentian. Chavasse..... 181
Chamomile (Roman). Morton, Cawai- gee, Ringer..... 174	Gulantha. Stewart, Campbell, Hardie, Piddington, Waring, Cawasjee..... 181
Coffee Arabica. Gindel, Dorput, War- ing, Vander-Corput, Fouquinville, Martin-Solon..... 175	Iron. Marc, Corvisart, Waring..... 181
Cusperia. Pereira, Williams, Wilkin- son, Hancock, Winterbottom, War- ing..... 175	Labarraque's Solution. Lalesque, Goussé..... 182
Marcotine. O'Shaughnessy, Garden, Biddle, Murrell, Martindale, West- cott, Sir William Roberts..... 176	The Olive-tree. Gladoron, Hanbury..... 182
Nitrates. Sawyer, Hunter, Burg..... 177	Opium. Trotter, Lind, Waring, Joseph Brown..... 182
Salicin. Blom, Fleischl, Goss, Roth..... 177	Picric, or Carbasotic, Acid. Erb, Clark..... 182
Tartar Emetic. Waring, Graves, Moore, Surgeon-Major E. Lawrie, Ringer..... 178	Pepper. Waring..... 183
Drugs of the Second Class.	Pepper-corn. 183
Adhatoda. Khory..... 178	Piperine. Hartle, Moll, Gordini, Blom, Soubeiran, O'Shaughnessy, Waring..... 183
Alum. Eltmüller, Lindt, Müller, Lange, de Mera, Adair, Copeland..... 178	Fluoridrina. De Konick, Van Mons, Mathysen, Labaudy, Leonhard, de Ricci..... 184
Australian Fever-tree. Bixby..... 178	Potassium Permanganate. Levi..... 184
Boberia. MacLagan, Waring, Godfrey, Dorward, Anderson, Falconer, Dempster, Cawasjee, Whitla, Goss, O'Shaughnessy, Stevin, Francis, Kirk, Hay, Tritton, Stewart..... 178	Quassia. Thomas, Lettsom..... 184
	Quinine-flower. Bigelow, Palmer, Newton, Padeir, Sparr, Hall..... 184
	Sodium Chloride. Willemin, Piory, Hutchinson..... 185
	Sodium Sulphate. Little..... 185
	Seymdia febrifuga. Waring, Rox- burgh, Duncan, Breton, O'Shaugh- nessy..... 185
	Strychnos Nux Vomica. Waring..... 185
	Strychnine. Nash..... 185
	Sunflower. Filatoff..... 185
	Sweet-flag. Thompson, Royle..... 185
	Synthetics—Antipyrine, Acetanilid. Pampoukis, Harley..... 185
	Phenocoll. Cucco, Vincenzo, Cerna, Bernarda, Fioletti, Olio, Quirogne, Methylene-blue, Guttman, Mya, Porenski, Blatters, Röttger, Riel, Laveran..... 186
	Tannin. Leriche..... 187
	Turpentine. Shapter, Ward..... 187
	Zinc Oxide. Hendy, Sir Gilbert Blanc
	Zinc Sulphate. Joseph Brown, Mo- grigor..... 187
	INSOLATION (Sun-stroke; Heat- stroke; Thermic Fever; Siriasis). 188
	Symptoms. de Santi..... 188
	Pathology. Lambert, Gleason, Martin, de Santi..... 188
	Etiology. Sambon, Colin, de Santi, Chevera, Phillips..... 189
	Treatment. Martin, Packard, Lewis, Gannett, Koerfer, Hume, Atkey, Sickel, Smyth, O'Dwyer, de Santi..... 190
	Prophylaxis. Kinnear..... 191
	SCALDS AND BURNS. J. Abbott Can- trell..... 192
	Symptoms. Thompson..... 192
	Treatment. 195
	Picric Acid. Walther, Latouche, Berger, Tuffier, d'Arcy Power, Miles, Thompson, Thierry, Fil- leul, Papasoglou, Sila Novitsky, Souter..... 195
	Aristol. Haas, McCoy, Walton, Cookman..... 196
	Ichthyol. Leistikow..... 197
	Europheon. Nolda..... 198
	Thiol. Bidder, Giraudon..... 198
	Chloral-hydrate. 198
	Nitrate of Potassium. Poggi..... 198
	Calcined Magnesia. Vergely..... 199
	Turpentine. McInnis..... 199
	White-Lead Paint. Gross..... 199
	General Measures. Technmark..... 199
	BOOKS AND MONOGRAPHS RE- CEIVED 199
	CONSERVATION. Davis..... 200

Introductory Notice.

THE Spanish military death-rate in Cuba, published by Dr. W. F. Brunner in the Medical News of May 7, '98, gives the total number of deaths as 32,534 for the year 1897, the majority of which were due to preventable diseases. As American troops are soon to be sent to that country, the editor deemed it expedient to utilize the vast store of information that the editorial offices of the ANNUAL afford to

collate all suggestions calculated to thwart the pernicious effects of the Cuban climatic and telluric conditions, and the best remedial means for the diseases which they engender. This issue contains an editorial review of the situation; an analytical list of the best *succedaneæ* for quinine and other cinchona salts—in case the supply of the latter should, at any time, fail; the most advanced ideas upon the treatment of BURNS AND SCALDS AND INSOLATION. The next issue will be devoted to the treatment of TROPICAL DYSENTERY AND DIARRHŒA, GUNSHOT AND OTHER WOUNDS, VENOMOUS WOUNDS AND STINGS, and other conditions that may threaten the lives of the brave men who have gone to the front. The editor feels that the readers of the MONTHLY CYCLOPÆDIA will approve of this, and that they will excuse the momentary change of form which the presentation of these articles will involve.

Editorial.

MALARIA AND THE CUBAN CAMPAIGN.

IN the spring of 1895 the writer witnessed the departure from Paris of the Two Hundredth Infantry for Madagascar. Beaming with anticipations of a glorious campaign, the young soldiers composing the regiment seemed capable of any physical effort; robust, agile, and merry, they appeared able not only to defy the efforts of any human foe, but also to remain invulnerable to the onslaught of a much more potent enemy: the noxious emanations of marsh-lands and pools. The campaign was pushed with energy; but some months later every Parisian's heart was stirred to the utmost by the return of the same regiment, or, rather, what was left of it: a handful of gaunt, yellow "convalescents," several of whom were soon to follow the nine hundred and odd comrades who had preceded them in the other world. The human antagonist had been a myth; the subtle earth- and water-borne enemy had done it all.

The Spaniards have already said that their strongest allies would be the febrile diseases of Cuba: yellow fever and malaria. We have no reason to disagree with them, and, if the disastrous Madagascar campaign is taken as *theme*, it is because from the sanitary aspect there is a striking analogy between it and the Cuban campaign upon which we have just embarked. Geographically, Madagascar and Cuba may be called "sister-isles": the former is centrally traversed by the 22d degree of latitude south, the latter by the 22d degree of latitude north. Both lie to the southeast of the main-land; both are surrounded by warm ocean-currents; both are paradises of fertility—studded with hot-beds of decaying vegetable matter, marshes, and swamps. When the resisting powers of the French and American forces are compared, they may be said to be very similar: the Foreign Legion, of France, is represented by our regulars; the French regiments of the line, made

up of men between 21 and 24 years of age, about correspond to our volunteers, ranging in age from 21 to 35, who compensate through their greater proximity to full development for the superior physical training of the French troops,—which, by the bye, malaria in no way respects. As to the sanitary organization, the French medical corps was severely criticized by the lay press when the deplorable condition of the troops was made known; how far this was warranted it does not belong to us to state, but it can safely be asserted that a more loyal and better-versed corps of military surgeons can be found nowhere. The fact remains, however, that if such results are possible with a medical corps organized on a permanent footing to satisfy the needs of a standing army of half a million men, to expect perfect service from a corps such as ours, elaborated for an army of twenty-three thousand men and suddenly increased to one of nearly two hundred thousand, is certainly paying Surgeon-General Sternberg a high tribute: one, indeed, which he truly merits.

The picture witnessed at Madagascar, however, can but suggest the possibility of similar experience in our case. A review of the main features of the French expedition may, therefore, prove instructive.

Among the multitude of statements published during the Madagascar campaign in connection with the high mortality among the troops, but three general factors seemed to be based on good ground: 1. A certain amount of friction between the army and navy, which indirectly caused vexatious delays and undue retention of troops in malarial districts. 2. Unwarranted subservience of all considerations bearing upon the health of the men to the needs of the expedition. 3. Inadequate application of prophylactic measures as a result of the first two factors.

We have no reason to believe that there exists any friction whatever between our army and navy. As to the absolute subservience of all hygienic considerations to the needs of the campaign, we surmise that no decisive step is taken by the Secretary of War when troops are to be transferred to malarious regions without due consultation with the surgeon-general, and that his advice is the primary ruling factor. As to the third, it is normally eliminated by the absence of the first two drawbacks. We can, therefore, feel that the conditions which have prevailed in Madagascar are not to be feared, *provided our means of prophylaxis are adequate*. But is this the case? Can we rely upon the preventive means dictated by prevailing views to efficaciously protect our troops? We must admit that our confidence becomes suddenly checked at this point. In the editorial offices of the ANNUAL we peruse thousands of papers yearly, and we have learned to fear an exaggerated confidence in the teachings of experimental evidence. We have observed that, since bacteriology has invaded the very confines of pathology, experimental work has overshadowed clinical experience, and what the laboratory does not prove, what experiments do not show, is often refused in practice. If this tendency is not counteracted in the application of sanitary hygiene in the Cuban campaign, we might as well frankly admit that we firmly expect another Madagascar. Our purpose here is to urge that the distinguished members of our profession who are at present at the head of the army, navy, and marine-hospital bureaus be not unduly influenced by experimental evidence in the elaboration of the protective measures to be carried into effect.

Recently a prominent pathologist advanced the statement that at the present time there are only two theories as to the mode of transmission of malarial infection that are worthy of consideration, namely: that it occurs aërially, or by inoculation through the agency of suctorial insects. Such an assertion is quite acceptable when uttered as a theme for discussion before a medical society, but it is a very dangerous one to act upon when prophylactic measures are to be put into effect. True, the organism which is known to produce the fever called "malarial" in mankind has not been found outside of human blood; true, we have not been able so far to produce the disease experimentally by administering drinking-water from malarial places, but *time* has so frequently and so thoroughly contradicted positive assertions based on data of this kind, that negative experimental evidence thus obtained should count for naught when the least practical evidence to the contrary is obtainable. What we really *know* is that there are many factors, objective and subjective, which, acting more or less conjointly, can give rise to malarial fever. Concerning two of these, aërial transmission and inoculation, we know something tangible; a third—the influence of drinking-water—does not occupy so advanced a position; a fourth—the predisposing influence of fatigue and heat—is still less understood; a fifth is hardly recognized: the effect of drenching either by wading across streams or by rain, or bathing in the waters of malarial districts, etc., etc. That does not mean that we do not have evidence to sustain the belief that each one of these etiological elements may play an active part in the process; it simply indicates that the majority of them are not as yet understood. What do such negative experiments as those conducted by Celli and Zeri—the giving of marsh-water as beverage for a prolonged period to a large number of individuals—prove? Had their subjects been submitted to the exhausting effects of military life, long and perhaps forced marches; had they also inhaled "malaria" and used surface-waters from malarial pools as beverage, these investigators would probably have obtained different results. The coincidence of arduous field-service and fever has often been noticed; so great an authority on these matters as Laveran places transmission by drinking-water at the head of the list of pathogenic factors, and he has shown that malarious countries have been traversed with impunity by drinking only boiled water. Dr. Smart, of the United States Army, has witnessed the improved condition of troops suffering from malaria as soon as purer water-supplies had been afforded; our esteemed colleague, Dr. Shrady, editor of the New York Medical Record, has emphasized it.

While laying stress upon factors which may not have received the attention due them, our aim is not to undervalue those to which pathologists attribute the active rôle as intermediaries. Indeed, the Madagascar campaign affords a striking lesson as regards the importance of aërial transmission. To facilitate the transportation of baggage into the interior of the island, the French government had supplied its troops with metallic wagonettes, so constructed that they could be floated across streams. For one cause or another it was soon found that they could not be used, and the construction of a cross-country road was determined upon. The young soldiers were put to the task, and bravely and uncomplainingly they worked. Soon, however, the sick-list increased, and, by the time the road was finished, the mortality-list had become appalling. Why the military authorities

permitted this when natives could be had to do the work it would be difficult to explain. To us, the lesson taught by this holocaust of victims is that under no circumstances should unacclimatized men be employed to work the soil. "Europeans must not attempt to work the ground in the intertropical regions" writes Medical Director Maurel of the French navy; "it is death to them, but it does not injure negroes or other natives, who should be secured for this purpose." The importance of aërial transmission is further shown by Dr. Maurel's personal observations. In Africa he had spent nights tramping in the marshes without suffering the least inconvenience, while his assistants suffered from chills: merely because they did not seem to be able, literally speaking, to "keep their mouths shut." He absolutely refrained from talking so as to allow none of the miasmatic air to reach his lungs through the mouth, the nasal passages, as is well known, acting as a sterilizing apparatus through the destructive action of the nasal secretions upon atmospheric organisms.¹

The bearing of atmospheric conduction upon the prophylaxis of malarial diseases shows itself in many other ways.

The accumulation of malaria near the surface accounts for the generally-recognized fact that people who sleep on the ground-floor frequently suffer, while those who sleep in the upper stories remain unaffected. Hence the recommendation of hygienists to build houses on high places as far away as possible from gas-laden marshes and pools. The influence of accumulation on low levels was well shown recently by Mr. Stanley Kellett Smith, who related, in the *Lancet*, his observations during an exploration of the country west of Lake Nyassa. It was found that among the men on the march there was a close connection between fairly-rapid alterations of level and the occurrence of malarial manifestations. Whenever the route lay across level or gently sloping country fever was rare, but quick change from high veldt to low veldt and *vice versâ* was always marked by a great increase in the number of attacks. Again, the inhabitants of the Pontine Marshes have learned by experience to sleep on platforms supported on stakes from twelve to fifteen feet high: a practice which is also resorted to in the malarious districts of Greece. These facts sufficiently sustain the advantage of camping troops upon the most elevated ground that can be reached, the tents being so placed as to have their rear face the dominant wind of the region. In bivouacking, hammocks,—readily transportable by cavalry and artillery,—hung as high as possible, materially reduce the chances

¹ I would venture to suggest that we may have, in this prophylactic function of the nasal cavities, a clue to the manner in which the system becomes infected through the respiratory tract. As is well known, to work malarial soil before the sun is well up or after the sun sets is a source of great danger. The pathogenic element, whether it be organic or gaseous (*grundluft*), being widely dispersed through solar heat, the nasal mucus easily disposes of the comparatively few germs present—if such be the active factors. At night the miasmatic air lies low, the proportion of malarial agents is comparatively much greater, and enough pass the nasal cavities to infect the system. This would clear a potent impediment in the way of the air-conduction theory, namely: the fact that malaria is not transported by the winds. It seems plain that strong air-currents should also be able to cause a wide diffusion of malarial elements. This view also accounts for the fact that malaria does not behave after the manner of diseases due to the inhalation of dust. Malaria, on the contrary, is most active on sultry days, when there is no wind, and on days following rain, when the dust cannot rise.

of malarial infection by holding the sleeper, if not entirely above, at least in a comparatively-rarefied part of the malarial stratum.¹

The evidence in favor of contamination by suctorial insects is no less strong, and the fact that the mosquito can thus transmit the pathogenic element of malaria is gaining ground every day. Two years ago Manson produced, in the human subject, attacks of typical malaria by the imbibition of water inoculated from the bodies of mosquitoes which had bitten persons suffering at the time from malarial fever. Draining of the soil causes mosquitoes to disappear; they enter rooms and are most active at night, and they always fly near the ground, especially around pools. All these features thoroughly associate the mosquito with malarial agencies. According to Bignani, the insect deposits its eggs in water or in damp places; from the eggs are hatched larvæ, which, very voracious, devour everything they encounter, among other things the bodies of the dead mosquitoes and the envelopes from which they emerged. They then pass into the state of nymphæ, from which emerge the young mosquitoes. During this long period of life in damp soil or in water, and especially in the state of larvæ, they impregnate themselves with malarial germs.

Emin Pasha, during his long sojourn in Africa, had, as his constant companion, his mosquito net. The overseers of estates and farms in the Roman Campagna, who less frequently suffer from the fever than their laborers, are especially careful to avoid the bites and stings of insects, particularly during sleep. In autumn the mosquitoes increase after the rains, and so does the fever; both diminish with distinct parallelism.

Practically, mosquitoes probably represent the most trying foe one has to contend with in malarial districts, when rapid changes of camping-grounds are necessary; but, fortunately, the other prophylactic measures required include the selection of high ground, located as far as possible from pools, etc., and, as mosquitoes are absent, or, at least, not so numerous under such conditions, unless winds passing over swamps carry them, the men will frequently obtain moments of respite from their attacks. It is during marches which take in high and low ground, virgin forests, swamps, pools, and shallow streams that the little pests become intolerable, and anyone who has tried under a tropical sun to cover head and hands with mosquito netting knows what Hades might be like: it is something like being stifled and parboiled at the same time. At night, however, netting can be advantageously employed in many ways, even when lying under tents, which seem in no way to prevent their entrance.²

¹ While traveling in tropical countries I found this method very satisfactory, although it was sometimes difficult to get in and out of the couches. When the trees are too far apart a strong rope can be used as support, each end of the rope being tied to one of the trees. Several hammocks can then be hung to the rope, end to end. To avoid the danger of falling, the edges of the hammock just above the centre should also be attached to the rope above. Two large trees, twenty to twenty-five feet apart, and three pieces of strong Manila rope, placed side by side, can thus serve for ten men. A mosquito net passed over the rope and adjusted around the hammock affords adequate protection against mosquitoes, gnats, flies, etc.

² For campaigns in tropical climates, our tents appear to be very deficient. The ground over which they stand allows the "*grundluft*," or "ground-air," upon which German authors lay stress as a prominent etiological factor of malarial fevers, to freely contaminate the air; the interstices under the walls and flies permit the free ingress of reptiles and insects. These

As may be seen, there is solid ground for the belief that atmospheric conduction and inoculation by suctorial insects—the mosquito being probably but one of the active parasites involved—are important—perhaps the most important—elements in the case; but what we wish to emphasize is that other factors, acting simultaneously with the main ones, may prove equally active; sufficiently so, indeed, to counteract prophylactic measures based upon a narrow view of the teachings of experimental work. Interesting in this connection is a report of one of our correspondents upon the methods employed by the Zulus to enable them to resist tropical disease. Experience has taught them that in warm countries frequent ablutions, especially during active perspiration, debilitate the system, and that baths are frequently followed by malarial fever. Copious ablutions in their opinion “open the pores” and facilitate the ingress of the malarial poison; their aim, on the contrary, is to close these avenues for disease-germs, and to insure this they apply fat over the entire body. Our correspondent, Mr. Croonenberghs, during a long residence among the Zulus, determined to test the accuracy of these observations. The results he gives in the following words: “I had obtained this information from Antoine d’Abbadie, of the Institute of France, and certainly found it applicable in South Africa. We both observed its teachings and lived, while all those among my companions who sought relief in the free use of water in Africa died. The three who had, like us, abstained from its use still live.” The habit of anointing the body with fat as a prophylactic measure is not limited to the Zulus. A number of African tribes resort to it, and I am told that the blacks in some parts of Guiana and other portions of South America do likewise. Indirect sustaining evidence is also obtainable in the records of explorers.

Are we to infer that the malarial poison is actually absorbed by the skin, or should we attribute the symptoms to the contact during active diaphoresis with water of a lower temperature than that of the body, as is the case in any climate? This answer can only be given when we shall have ascertained the nature of the element through whose intermediary the system becomes infected. The malarial organisms have not been recognized outside the blood of human beings; we know nothing of the life-history of the supposed parasite acting as external factor; we do not even know what malaria-laden air is laden with. Is it a spore, a ferment, a toxin, a gas? We do know, however, that the skin does absorb medicaments and that by cataphoresis we can sometimes cause the taste of a drug applied externally to at once be perceived. Grouping several factors,—(1) the predilection of malarial miasm, whatever that may be, for water,—leading to the natural deduction that a pond, a rivulet passing through a malarial region, etc., is but a solution or a mixture of the infectious element or elements; (2) the reduction of resisting power—whatever that may be—induced in the individual exposed to fatigue; (3) the relaxation of the skin incident upon or following active perspiration,—we can but conclude that there is sufficient ground to warrant at least a strong suspicion that the Zulus

defects could be easily counteracted by adding to the tent a water-proof canvas base or “floor” sewn to the bottom of the perpendicular canvas ends and sides, and rising in front some inches above the ground under the flys. Such a tent could be closed in on all sides and would afford greatly increased protection against the most active disease-dealing agents Nature supplies in the tropics, and enable the troops to profit, to a great degree, of the hours reserved for rest.

are right, and that the precautions that experience has suggested to them should be followed, with due regard, of course, for habits of cleanliness which characterize Anglo-Saxon civilization. Let it be said, however, that we have in this very quality a source of increased danger. The first impulse of the men when nearing a lake, a pond, a river, after arduous marching under a broiling sun, will be to "plunge in" and by doing so, inhale, drink, absorb, and what not, the element of destruction. How can this be prevented? The answer is: strict discipline as regards the enforcement of sanitary measures emanating from the surgeon-general's office. Cuba is not malarious everywhere. The men will, as much as possible, be camped where malaria is positively known not to exist. Here, of course, the camp-routine may be followed. It is in regions known to be malarious or where the least doubt exists that steps should be taken to protect the men from the effects of their own recklessness. Here, even, there are opportunities which may be taken advantage of to satisfy their bathing proclivities. The Zulus avoid bathing except during heavy rains, but they take advantage of these whenever opportunity offers. After resting, there is no reason why the men should not be allowed to do likewise. During dry weather, however, cleanliness should be obtained by other means. Whatever be the malaria-causing factor residing in water, utilization of all the means we know of would alone insure comparative safety. But the transportation of condensing apparatus for larger quantities of water would, of course, involve considerable difficulty. The next best procedure would be to boil the water; here, however, the chances that "ground-air" would be eliminated would be slight. Accepting "ground-air" as an active factor and not knowing its identity, chemical means cannot come to our aid. We are reduced to the use of small quantities of water for cleansing purposes in miasmatic regions when rain-water is not procurable. Washing the body with a bowlful of the local water, provided carbolic-acid soap be used on the wash-cloth, will, as far as we know, destroy any organism that may be present, while the small quantity of water spread on the surface will contain so small a quantity of "ground-air" as to eliminate any danger of contamination should this happen to be the noxious agent. The carbolic-acid soap will also tend to prevent the attacks of the smaller insects, such as fleas, lice, ticks, etc.

Drinking-water, as we have already seen, merits the greatest attention. In the British service this subject is considered as one of capital importance, but, unfortunately, the manner of satisfactorily supplying sufficient quantities of pure water is far from settled. Dr. R. H. Castellote, in the *Lancet* of February 12, '98, published notes on the Niger-Soudan campaign of 1896, which not only emphasize this fact, but also give valuable details regarding the use of portable filters. Each man had been supplied, as had been the case in the Ashantee expedition, with a small pocket charcoal filter in a metal case. These were found handy, but they required very frequent cleaning and the "inspiratory power required to get a small result" caused a strong tendency among the men to discard their use. Pasteur-Chamberland filters also required too frequent cleansing and soon had to be abandoned owing to the destructive wear and tear of transportation. Altogether the question of portable filters in the tropics was found to be a difficult one. Dr. Castellote outlines the principal requirements that an expedition filter should present, and furnishes valuable hints based, of course, upon personal observation:—

"A filter should be strong enough to stand the knocking about that things get from native servants and carriers; it should be capable of turning out a large quantity of water in a short time; should be easily taken to pieces for the component parts to be cleaned at frequent intervals (the amount of deposition on the porcelain or charcoal is evidence of the quantity of suspended matter in the water at most places); to be useful at short halts on the march it should be easily set going and packed up again; and, lastly, it must be fairly portable.

"On the whole, probably one of the larger forms of Pasteur-Chamberland filters fitted with pump and with the body made of earthenware or galvanized iron, and securely packed in an outer jacket of wood or wicker-work, would turn out enough water for twenty men in a short time and would answer most of the other requirements. The only point not satisfactory would be its portability. It would form a complete load for one carrier and if of earthenware possibly would have to be carried between two.

"Whenever possible, undoubtedly the best and most certain way of purifying or rather sterilizing water is by boiling. This in itself is sufficient to make the water good and palatable for drinking purposes if it is naturally fairly clear; but if, as usually is the case, there is much suspended organic matter in it, this can be largely removed by straining through fine muslin or a clean pocket-handkerchief before boiling.

"Boiling was the process, on the failure of our filters, that we most generally relied on for getting a drink. Each white man carried a vulcanite water-bottle of about one and a half pints' capacity, covered with felt and fitted with padlock, which was filled up with boiled water, tea, etc., over night. But with thirsty men on a long day's march under a tropical sun it can readily be understood that one and a half pints of fluid did not go very far, and three or four hours generally saw most of the water-bottles empty. After that, one had either to exercise a great deal of self-control or risk drinking unprepared water whenever we came to it. It was not nice and it was not wholesome, but at all events it was wet, and I think the latter quality was the one which recommended itself to many. The vulcanite bottles require careful attention. In a short time, especially if used to carry tea, they acquire a musty, stale odor, which communicated a similar taste to the water. Hot water shaken up with a little clean sand soon disposes of this trouble. The felt coverings absorb a good deal of water, which, on exposure to the sun and wind by evaporation, renders the contents of the bottles very fairly cool. It was customary to dip them whenever we came to water." These are timely hints.

A few words concerning prophylactic measures addressed directly to the blood may not be out of place. That quinine merits, on the whole, the confidence of army-surgeons as a potent prophylactic need not be emphasized; we positively know that the spores of the *plasmodium malariae* are extremely susceptible to its action, even when the proportion in the blood is minute. But we also know that it occasionally fails, *especially when general measures of prevention are not resorted to*. The conclusion imposed upon us, therefore, is that quinine should occupy an important position in the general prophylactic plan adopted, but that it should not alone be depended on; in other words, none of the other measures should be neglected if its best effects are to be obtained.

What is the best salt to use, what is the quantity that should be employed, and, lastly, what is the best time of the day to administer it to prevent untoward effects, gastric and general? Our late associate editor, Dr. Dujardin-Beaumetz, having announced to the Société de Thérapeutique of Paris that the soldiers about to be sent to Madagascar were to carry with them, for prophylactic purposes, a considerable quantity of quinine, and that it would be desirable to know if one of the salts of that drug were preferable to another, and also which was the most suitable pharmaceutical form for administration, the society appointed a commission to investigate the subject. The result of their studies were embodied in the following conclusions: 1. The basic quinine hydrochlorate is to be preferred as a prophylactic measure, as being sufficiently soluble and containing the largest quantity of the alkaloid. It is also less irritating to the digestive passages than the sulphate. The hydrobromate should be employed in rebellious cases of fever in which the sulphate has failed. 2. The compressed preparations should be absolutely rejected; pills made with a soluble excipient or gelatin capsules seem to be the preparations of choice in preventive treatment. 3. Two pellets or gelatin capsules containing 4 grains of the hydrochlorate may be given daily: one in the morning and one in the evening. This quantity will be sufficient to maintain the organism continually under the influence of the quinine.

For the reasons already outlined, the prophylactic use of quinine was not systematically resorted to during the Madagascar expedition, but a review of the general literature on this subject has shown that the above conclusions coincide with the views of the majority of writers who speak from the stand-point of personal experience. Small doses are not reliable; large doses are apt to be hurtful. Four grains night and morning were found to do no harm, even if administered during long periods, *provided the drug was given during meals*. Administered in this manner, quinine will not even, according to Laveran, irritate the stomach. This author also recommends the hydrochlorate; but he states that it should not be taken with coffee, this beverage causing a portion of the quinine to be precipitated. Thin advises that it be given two days before the malarial district is reached.

In the preceding pages stress has been laid upon the fact that the experimentally demonstrated data at our disposal concerning the etiology of malarial fevers are insufficient to serve as reliable guides in the selection of the proper prophylactic measures to be used in a campaign so fraught with climatic dangers as that just begun; it has been suggested that, by using, in conjunction with these, the protective measures that explorers, expedition surgeons, residents of malarial districts, etc., have found effective,—although the *modus operandi* of these measures be still unexplained,—the efficiency of our life-saving efforts might be enhanced. Finally, it has been shown that a broad view of the question seemed to indicate that the fever-producing elements reached the system in various ways, and that it was only by counteracting simultaneously all the factors acting as intermediaries between cause and effect that we could hope for the best results.

Considered from this point of view, the following prophylactic measures, carried out simultaneously, become necessary in malarial districts to insure adequate protection:—

1. To avoid contamination through the respired air and inoculation by insects:—

Unacclimatized men, white or black, should not be employed for the digging of trenches, the erection of defences, or any other kind of work involving upturning of the soil. Natives should alone be utilized for this work.

High ground should be selected for camp-sites, windward, if possible, of any swamp, pool, stream, etc., that may be in the neighborhood.

The men should sleep as high above the ground as possible (not less than two feet and, if practicable, from twelve to fifteen feet) and be provided with mosquito netting.

While crossing malaria-laden forests, glens, lowlands, swamps, etc., the men should be ordered to avoid talking.

2. To avoid contamination by water:—

When water from malarial regions is alone available for drinking purposes, it should be filtered or, preferably, sterilized by boiling.

Bathing should not be permitted when water from a malarial region can alone be obtained, but washing of the body with such water is permissible, provided carbolic-acid soap be employed.

3. To prevent the development of malarial parasites in the blood:—

Four grains of hydrochlorate of quinine should be administered morning and evening during meals as prophylactic, beginning two days before the malarious region is reached.

4. To conserve the general powers of resistance of the economy:—

Regular and frequent periods of rest should intersperse long marches. Drenching and wading through streams should be avoided when possible. Varied and adequate food should be furnished.

The head should be so protected as to secure a maximum amount of coolness under all degrees of temperature, a head-gear such as the solar tepé being furnished for this purpose.

It is obvious that the necessities of a military campaign greatly restrict possibilities, but the fact remains that the aim should be to do the best that can be done, all things considered. This will certainly be the case with such men as Drs. Sternberg, Van Reyepen, and Wyman at the helm, and with the valued collaboration of Dr. Guitéras.

Speaking of malarial diseases, the *London Lancet* of March 12, '98, very appropriately says: "We are impressed with the lamentable deficiency of exact knowledge which is still manifest notwithstanding all the industry of innumerable observers in the past fifty years." To recognize this is a great step forward; to recognize it in time, before the lesson will have cost us a host of victims, as it did to France during the Madagascar campaign, may, perhaps, do more for our cause than all the armies the country may bring to the front.

CHARLES E. DE M. SAJOUS.

Substitutes for the Cinchona Alkaloids in the Treatment of Tropical Malarial Diseases.

Considering the chances that the campaign in the tropics against Spain may exceed the limits generally set, and the possibility that the army, or some corps or division thereof, may suddenly and unexpectedly find itself cut off from supplies of cinchona alkaloids,—owing to inability to manufacture sufficiently rapidly or to accidents or exigencies of service,—it has been deemed appropriate to present an alphabetically-arranged *résumé* of the substances known to *matéria medica* that have been employed, with any degree of success, as substitutes. The literature of the subject for considerably more than a half-century, with the evidence accruing thereto, both *pro* and *con*, has been gone over for this purpose.

To further add to the value of the paper, and likewise in order to facilitate reference, these drugs have been divided into two groups, representing their order of value as determined by the evidence. Thus, the first group represents those that may fairly be considered as affording values relatively equal to those of the cinchonas and their alkaloids. Next, those that, while of not so great value, may be fairly depended upon.

It has not been considered necessary to enter upon the classification of malarial diseases, but all are, as it were, grouped under the one title, since to do otherwise would impair the value of the paper for reference, and require a differentiation in application which is always best left to the good sense of the individual prescriber.

DRUGS OF THE FIRST CLASS.

Ammonium Muriate.—This is a remedy of great utility and has been too

much neglected. This is the testimony of more than three score of observers in Europe and India. It is especially valuable in those fevers that are of a highly-inflammatory type, but must be given in doses of from 15 to 20 grains.

Liquor ammonia has also been suggested, given in the cold stage to hasten its subsidence. Pereira¹ says, however, that it is only available in fevers of a continued type where all violent action has subsided and the brain does not appear much disordered; here it is occasionally of great service, and its diaphoretic action should be promoted by diluents and warm clothing.

Apiol, the stereopten of the common parsley, is believed by Waring² the best *succedaneum* for quinine that has yet been discovered. In pernicious fevers its effects are much more prompt and certain than those of the cinchona salts. Joret and Homolle discovered the foregoing fact more than fifty years ago³; but the difficulty of securing a uniform preparation—which is now obviated—caused the remedy to be little employed. Stockwell and Serré corroborate⁴ this view.

Arsenic is one of the oldest and best known of remedies in periodic maladies. It has maintained its character for centuries among Eastern nations, and its efficacy has been well established in Great Britain, Europe, and America. In tropical maladies Chapple, as the result of Indian experience, insists that it is as valuable as quinine.⁵ Sir Ronald Martin⁶ characterizes it as “indeed a

¹ *Mat. Med.*, vol. 1.

² *Prac. Therap.*

³ *L'Union Méd.*, Jan., Feb., '55.

⁴ *Editorial, Med. Age*, '95; *Bull. Pharm.*, '94.

⁵ *Med. Times and Gaz.*, Mar. 2, '61.

⁶ *On Tropical Diseases.*

noble remedy." Adamson considers that its powers may be greatly enhanced by combining sesquicarbonate of ammonia (5 grains to 6 minims liquor ammonia to 1 ounce of water), repeated every two or three hours according to the frequency of the paroxysms.¹ M. Boudin, formerly Physician-General to the French troops in Algeria,² long ago emphasized its value: "I am assured by successive trials, which have been repeated with similar results by many others, that arsenous acid preserves, in the somewhat microscopical doses of $\frac{1}{100}$ grain, all its medicinal energy, not only in marsh-fevers, but also in a multitude of other diseases. Further, I have obtained from $\frac{1}{100}$ grain of this remedy the entire removal of fevers contracted in Algeria and Senegal, and which had previously resisted means of various kinds, including quinine and change of climate. I have been able, in a great number of cases, and by very small doses, to put an end, in a short time, to quotidian, tertian, and quartan fevers, contracted in latitudes the most various, often complicated with chronic enlargements of the abdominal viscera, and which were incurable by quinine." He considers it important to administer the remedy five or six hours before an expected paroxysm, but does not give it if the fever is complicated with bilious or inflammatory disorders.

Roth³ insists that in malarial fevers and cachexia, especially in inveterate cases, there is no remedy equal to Fowler's solution.

It must be remembered that one great advantage of arsenic, in small or normal therapeutic doses, is that it does not, in any way, interfere with the digestive system, but rather tends to promote digestion; it has no influence upon non-organized ferments either vegetable or

animal, including amygdalin, pepsin, pancreatin, etc.

In acute remittent or even acute intermittent it is frequently employed in the West Indies and South America. Ringer⁴ accords arsenic a place second only to quinine in the treatment of malarial fevers.

Butler⁵ gives arsenic equal rank with quinine, and truly remarks there are few relapses of malarious fevers that have been treated by arsenic; moreover the latter can be administered with as favorable results as quinine would give.

Ricchi⁶ was able to test its effects on a large scale in Italian districts where malaria was particularly rife. Of 1963 men treated it appeared to be of little value in acute cases, but proved satisfactory in 1384 that were chronic. To 538 persons who did not suffer from the disease it appeared to be prophylactic, and in the few that subsequently contracted a malarial malady it was invariably of mild type and easily cured by quinine.

Du Cazal⁷ indorses the method originally proposed by Boudin, viz.: to administer, at the outset, sufficient of a solution of arsenous acid, 1 to 1000, to equal 1 grain of arsenic, and then continue until symptoms of intolerance appear.

Boneset.—Another drug of considerably more than passing value is boneset (*Eupatorium perfoliatum*), which for more than a century has been a most potent domestic remedy. Goss⁸ remarks that it is a very positive antiperiodic,

¹ Edinburgh Med. Jour., May, '62.

² Treatise on Intermittent Fevers, Paris, '42.

³ Mod. Mat. Med., '95.

⁴ Hand-book Therap.

⁵ Text-book Mat. Med., '97.

⁶ Lancet, Lond., Apr. 27, '89.

⁷ Jour. des Pract., No. 2, '93.

⁸ Mat. Med., Pharm., and Spec. Therap.

and that its direct action upon the secretory functions of the liver and its tonic and diaphoretic properties make it an important remedy. He has known Southern planters to use it in malarial fevers, both for their families and their slaves, with unqualified success.

Archie Stockwell¹ corroborates this opinion of boneset, and has employed it where quinine and arsenic, in spite of all adjuncts, had failed flatly. He prefers the freshly-made infusion, taken either hot or iced, as best suits the palate of the patient, giving preference always to the recently-gathered plant, though the dried and compressed packages are very efficacious. Goss prefers the saturated tincture.

Calaya.—Maurage² speaks highly of calaya (*Anneslea febrifuga*) in tropical fevers, as he employed it very extensively in both Tonquin and Madagascar, administering four doses of about 30 grains each of the extract, in syrup. The first dose always reduced the temperature from 1.5° to 2.5°; after the second dose the temperature fell still further. This antipyretic action was not accompanied by any sweating or depression; but, on the contrary, the patients invariably expressed themselves as feeling far better than they had when given quinine in previous attacks. The temperature never fell below normal; and in 3 of 9 cases the fever never returned after the second dose. In 6 there was a subsequent attack, which required four doses to subdue, but the temperature never rose over 101.5° in 5, while in 1 it reached 104.7°. A third treatment was not required in any case. Maurage affirms that calaya is an absolute specific in malarial fevers.

Carbolic Acid.—Treulich³ states that obstinate intermittents which are not in any way benefited by quinine may be

rapidly and permanently cured by carbolic acid; that the drug induces no disagreeable consequence, as is the case in health. He is sustained by Déclat,⁴ who treated twenty very obstinate and severe cases, injecting subcutaneously 75 drops of a 1-per-cent. solution: four times the first, three times the second, and twice on the third day. The first injection was usually sufficient to effect a cure, but the subsequent ones were matters of precaution. Treulich gave 4 grains daily, injecting it in a preparation of gentian. Deplats also advised⁵ the use of carbolic acid as an antipyretic and antiperiodic. Ringer⁶ admits the validity of the recommendations, but adds that the drug is inferior to many other antipyretics, and has a greater effect on the febrile than on the non-febrile temperature. On the whole, it is, perhaps, more safe to side with Wood,⁷ who does not consider its use as justifiable, particularly as the preparations in the market are so unstable. The sulphocarbolates may be placed in the same category as the acid. Creasote might be tried; but there is little reason to believe that it is more efficacious than its coal-tar congener.

Chamomile (Roman) appears to still hold its own as a remedy for the malarial fevers of Europe and the West Indies, but requires to be given in doses of 2 drachms. Morton⁸ found it most effectual when cinchona had failed; and Cawaigee, of Bombay, as late as 1891,⁹ corroborates this, and mentions the fact that it is most available in those forms of malaria accompanied by or developing

¹ Medical Age, '92.

² Lancet, Lond., vol. 1, '96.

³ Wien. med. Presse, July 2, '71.

⁴ Compt. Rendus, No. 75.

⁵ Gaz. Hebdom., xvii, '80.

⁶ Hand-book of Therap., '97.

⁷ Prac. Therap., '94.

⁸ De Febribus, cap. iii.

⁹ Prac. Vade Mecum.

biliary derangement. Ringer¹ recommends it especially for malarial diarrhœas.

Coffee Arabica.—Little is known medicinally of this agent,—so highly esteemed as a beverage, after it has been roasted and boiled,—yet its original introduction was as a therapeutic agent. A remarkable fact regarding its chemistry is that its alkaloid, caffeine, with the addition of oxygen and the elements of water, yields *taurine*: the nitrogenized compound peculiar to the bile.

In intermittent and other fevers, Gindel and Dorput long ago discovered that coffee acted as a powerful febrifuge. To-day, in Dutch Java, Waring² asserts that it is employed in strong infusion with lemon-juice in the virulent fevers of that island. From thence its use has passed to Holland, the Dutch and other West Indies, and even found a foot-hold in Jamaica. In the Dutch possessions Vander-Corput admits that this treatment is considered far superior to that by quinine; Pouquinville states that it is infallible in the malarial fevers of the Morea; and Martin-Solon recommends it in the adynamic forms of typhoid. Many French physicians employ caffeine in fevers; and as this agent is identical with theine, the alkaloid of tea, mate, and guarana; and as kola likewise depends upon it for its chief activity, there would seem to be always at hand, in the tropics, the means for managing the febrile condition. A suggestion that might be offered is that strong, hot lime-juice and infusion of green coffee (3 ounces of Java to 1 ounce of Mocha in 6 ounces of water) be drank on an empty stomach early in the morning; it must be borne in mind, however, that it often causes the urine to look as if the

patient had been taking carbolic acid; that is to say, very dark.

Cusparia, or *angustura*, for more than a century has been employed medicinally in tropical countries. It is the true *Angostura*, or *Angustura*, and must not be confounded with the false form, which is the source of *Angustura bitters* and belongs to the strychnine group. As this bark is found everywhere in the West Indian shops, where it is known to Spanish Americans as *Orayuri*, though the bark is termed *Carony* (the tree itself is termed *Orayuri*), it is available on any emergency. So valuable is it in low fevers of all kinds that it has become a favorite in many parts of Europe and Great Britain, as well as in India; and, though it is not the least astringent, it is a sovereign remedy for dysentery in all climates. Its disrepute in the United States is due to the fact that, as imported, it is adulterated with false *angustura*. The physical characteristics of the two barks may be compared sufficiently to permit of ready identification:—

True Angustura.

Flat or curved pieces or quills, 1 to 3 inches long, 1 to $\frac{1}{2}$ inch wide, and $\frac{1}{4}$ to $\frac{1}{8}$ inch thick; obliquely cut on inner edge. Externally a yellowish-gray, mottled, corky layer, which can be scraped off and shows a dark-brown, resinous layer. Inner surface, light brown, flaky. Fracture, short, smooth, resinous, and under lens showing numerous white glistening stræ of crystals of calcium oxalate. Odor musty and disagreeable. Taste, bitter and aromatic, and when leaves are chewed for some time a sense of heat and pungency in the throat and on the fauces.

False Angustura.

Much the same shape, but more gray in color externally; the cork patches of a rust color; warty. Inside, brown. Fracture smooth, but shows no white stræ of calcium oxalate. Odor rather sweetish than otherwise. Taste, intensely bitter. The inner surface gives bright-red color with nitric acid, owing to presence of brucine, which true *angustura* does not.

¹ Hand-book, '97.

² Prac. Therap.

Pereira¹ states that cusparia is not only valuable in intermittents and remittents, but in the worst bilious forms of the latter, such as occur in the tropics. Williams² and Wilkinson and Hancock³ corroborate this opinion; while Winterbottom⁴ is even more emphatic, and extols the drug in adynamic continued fever.

According to Waring,⁵ angustura (cusparia) may readily be employed as an infusion of 1 to 5, employing the water at 120° F., the dose being from 1 to 2 ounces. The powdered bark may be given in doses of from 10 to 40 grains. A convenient tincture may be made extemporaneously by macerating the dried bark in coarse powder in five times its weight of alcohol. It should be put in a well-stoppered bottle; allowed to stand eight days in a cool place, shaking twice daily; then poured off, strained, and filtered. The infusion is incompatible with metallic sulphates, antimony, lead and mercurial salts, silver nitrate, and infusions containing tannin.

Narcotine, or anarcotine, is a solid, white, inodorous, insipid, neutral alkaloid derived from opium, occurring in crystallized prisms. Its title is certainly a misnomer, for it is devoid of even a trace of narcotic properties, but, on the contrary, it is assertively tonic, febrifuge, diaphoretic, and antiperiodic; it is absolutely, according to a large number of East-Indian authorities, the greatest rival of quinine *muriate*, and far superior to the *sulphate*. O'Shaughnessy states⁶ that his personal experiences, and those of many medical officers throughout India, lead to the conclusion that narcotine is, at most, only second to quinine; that it has, moreover, succeeded when the latter drug failed; and in malarias complicated with dysentery

the opium alkaloid is incontestably superior. Garden,⁷ of the Bengal Medical Service, strongly advocates it as an antiperiodic, and considers the only objection that can be urged against it is a tendency to produce constipation. Biddle⁸ declares that the drug is inert as regards narcotic properties, but that it has been used in India as a stomachic and febrifuge in the treatment of malarial fevers. Murrell,⁹ of London, recognizes its total lack of narcotic properties, and reaffirms its wonderful antiperiodic powers; in this he also echoes Martindale and Westcott.¹⁰ The former further states that: "It has long been held in India that opium is a remedy for, and a protective against, malarial infection, and the remarkable immunity of opium-eaters from diseases of this type is probably due to the presence of this alkaloid. Sir William Roberts has pointed out that in narcotine we possess an antiperiodic of great power, analogous to, but not identical with, quinine. In India it was for several years regularly supplied from Government factories at the rate of about one hundred weight *per annum*, and considerable quantities of the drug are still to be found in the medical depots of the country. In some cases it is but slightly inferior, and in others distinctly superior to quinine." The dose is 1 to 3 grains; although our textbooks state that the dose is $\frac{1}{8}$ to $\frac{1}{4}$ grain, and that it possesses one-eighth—some say one-third—the strength of morphine.

¹ Mat. Med. and Therap.

² Med. and Phys. Jour., '98.

³ Med. Facts and Obs., vii.

⁴ Mem. Med. Soc. Lond., iv.

⁵ Prac. Therap.

⁶ Bengal Pharm.

⁷ Lancet, Lond., Jan. 11, '62.

⁸ Mat. Med. and Therap., '96.

⁹ Manual of Mat. Med. and Therap., '96.

¹⁰ Extra Pharm., '95.

Nitrates.—Nitrate of potash is a very old remedy for fevers. Sawyer¹ finds it successful even when quinine has failed. He gives it in 10-grain doses, with 4 drachms of brandy or water; or, if agreeable to the patient, the powder may be placed on the tongue and allowed to dissolve slowly. He deems it a specific in all malarial fevers, and affirms that with its aid he has never failed to arrest the paroxysm if uncomplicated. Hunter² likewise insists upon the efficacy of the drug, which, he declares, cured 65 per cent. of cases, with the administration of a single dose,—35 per cent.,—that had remained uninfluenced by repeated doses. His best results were obtained when the nitrate was given during the premonitory stage in anticipation of the paroxysm. Sawyer,³ referring to the fact that he had anticipated Hunter (*sec ante*), says that he was first induced to try the remedy after having been assured by an old backwoodsman that a large dose of gunpowder, at the beginning of the cold stage, would almost always abort or modify the malarial paroxysm. Gunpowder includes two remedies: for charcoal has also been highly recommended as an antiperiodic (see DRUGS OF SECOND CLASS).

Burg⁴ employs both potassium and sodium nitrate indiscriminately, the action of which toward the malarial poison he holds to be identical, though the former has the advantage of being more soluble and less toxic; he gives from 15 to 24 grains in the interval between the attacks or at the onset of an attack. In his experience with the virulent fevers of the Hungarian marshes the "results were variable": the treatment succeeded in some cases and failed in others.

Salicin for a time threatened to be a

rival of at least the lesser cinchona salts. It has been highly lauded by many observers. Blom⁵ used it extensively: chiefly when quinine seemed ill borne, when the patient was plethoric, prone to vascular congestion of the head or to violent headaches. He ascribes the efficacy of the drug to a peculiar operation on the mucous membranes, "of which it elevates the tone while improving the character of the secretions." He also praises it in fevers of continued and purely-remittent type. Equally enthusiastic is Pleischl, of Prague⁶; and Goss⁷ remarks that, though inferior to quinine, it is more valuable than the latter in cases of malarial disease attended with increased secretion of the mucous membranes, with a septic tendency, and with foetid discharges; further, that it is a safer remedy in low types of fever than the cinchona salts. Roth⁸ also acknowledges its antiperiodic virtues. During the late Civil War, when quinine was unobtainable, a very satisfactory substitute was had by making a tincture of willow-bark (1 to 2 of 60-per-cent. spirit), of which 30 to 60 drops were given at a dose; it was often combined with white poplar and Floridian dogwood.

It may here pertinently be remarked that, since this drug has been exploited as a remedy for rheumatism, the statement has been accepted that salicin is transformed into salicylic acid in the human economy,—that, in fact, it is but a crude form of the acid; but it need only be said that on investigation this proves to have no better basis than mere

¹ St. Louis Med. and Surg. Jour., Jan., '67.

² N. C. Med. Jour., Mar., '90.

³ N. Y. Med. Jour., Aug. 2, '90.

⁴ Pester Med. Chir. Presse, No. 30; La France Méd., Aug. 19, '92.

⁵ Ess. Mat. Med. and Therap.

⁶ Brit. For. Med. Rev., Apr., '36.

⁷ Mat. Med., Pharm., and Special Therap., '89.

⁸ Modern Mat. Med., '95.

surmise, and is not at all borne out by clinical experience.

Tartar Emetic.—In inflammatory, continued, and remittent fevers, says Waring,¹ whose vast experience in the tropical Indies entitles his utterances to careful consideration, this is a most valuable remedy, fulfilling two important indications, viz.: subduing the morbidly-increased action of the heart and arterial system and determining freely to the skin. In the cerebral complications of any fever, says Graves,² a very valuable formula which is often borne and productive of benefit when either remedy used singly either fails or is inadmissible, is tartar emetic and opium. About $\frac{1}{2}$ grain of the former and 10 drops tincture of opium should be given every two hours until copious discharges of yellow fæcal matter take place, when the patient is greatly relieved, and generally falls into a profound sleep.

In pure intermittents, Moore,³ of the Gwalior contingent, employed tartar emetic with unequivocal success. Surgeon-Major E. Lawrie, of Hyderabad-Commission fame recently corroborated Graves, adding that in continued fever "it cuts the disease short with such certainty that it almost appears doubtful whether the lesion, instead of being specific, is not rather incidental or adventitious."⁴ Ringer⁵ is also very partial to antimony in fevers.

DRUGS OF THE SECOND CLASS.

Adhatoda.—The Malabar nut (*Adhatoda vasica*) is recommended by Khory⁶ not alone as a substitute for cinchona in malarial fevers, but as a prophylactic.

Alum.—At one time this very common drug was held in great repute. It was especially recommended by Eltmüller, Lindt, Müller, Lange, de Mera, and

Adair. Copeland⁷ broadly states that the reason for which it has fallen into disrepute is that the large doses demanded caused nausea unless governed by aromatics, although even the nausea and vomiting, by reason of the revulsive effect, often prove efficacious. Certain it is that alum is a valuable remedy in malarial hæmaturia, and in the atonic hæmaturias that sometimes accompany tropical fevers.

Australian Fever-tree.—Bixby⁸ declares that the Australian fever-tree bark (*Alstonia constricta*) resembles, in its action, a mixture of quinine and nuxvomica; that it is an antiperiodic of the highest type, giving better satisfaction than quinine or cinchonidia. "It is a cerebro-spinal stimulant and tonic, acts positively upon the great sympathetic nerve-centres, and consequently increases positively and permanently the vital forces of the entire system. In a large majority of the cases of intermittent and remittent fevers it is a superior remedy."

Beberia is another old remedy, and one not without some measure of value. It was introduced by MacLagan,⁹ who detailed 40 cases of tropical malarial fevers treated by it, with only 6 failures. Since 1843 the sulphate of the alkaloid has found extensive use in the East and West Indies, tropical America, etc., and Waring expresses the opinion, from the evidence adduced, that it is entitled to rank close to quinine; it is said to be particularly serviceable where there is cerebral disturbances. MacLagan was in

¹ Prac. Therap.

² Clinical Lectures, vol. i.

³ Indian Ref. of Med. Sci., Oct., '48.

⁴ Cawasjee's Vade Mecum, '91.

⁵ Hand-book of Therap.

⁶ Bomb. Mat. Med. and Therap.

⁷ Medical Dictionary.

⁸ Amer. Med. Jour.: Nat. Disp., third edition.

⁹ Edinburgh Med. and Surg. Jour., vol. for '45.

the habit of giving 3 or 4 grains every two or four hours, until a total of 1 scruple would be ingested before the expected paroxysm. It was also successfully employed by Godfrey, Dorward, Anderson, Falconer, Dempster, and others. Cawasjee¹ asserts that it is both tonic and antiperiodic, and this view is corroborated by Whitla,² who adds, however, that it is vastly inferior to quinine and arsenic. The fact is, probably, that, while quinine was expensive, beberine sulphate furnished an excellent substitute, but the low price of the former has practically crowded its rival out of use. Goss,³ who is an eclectic authority, declares that for several years he employed the salt with good effect, but after a time, and for some unknown reason, it did not act so well, yet, with quinine, the combination proved superior to either alone. He employs twice as much beberine as quinine. During the late Civil War, after the stock of quinine was exhausted in the South, attention was turned to the sulphate of beberia, and the results secured appear to have been fairly satisfactory.

It is important to bear in mind that *berberis* is not to be confounded with beberia, for they belong, not only to different species, but to different families and orders. Berberine sulphate is from the two forms of the latter, from which, also, the natives in the East prepare a watery extract called *rusot* that has long been esteemed a valuable febrifuge. O'Shaughnessy observed, in nearly 100 cases of malarial fever, several complicated with an affection of the spleen, that the pyrexia was checked, on an average, in three days by *rusot*.⁴ In most instances it occasions a feeling of agreeable warmth at the epigastrium, increases appetite, promotes digestion,

and acts as a very gentle, but certain, aperient. It should not be given when there is marked hepatitis or when dysentery threatens. Stevin,⁵ Francis, Kirk, Hay, Tritton, Stewart, and other medical officers in India corroborate O'Shaughnessy.

Calcium phosphate, mixed with one-sixth its weight of washed sulphur, was found most efficacious in all cases and stages of well-marked intermittents by Blacklock, of the Madras Medical Establishment.⁷ He was in the habit of preceding the remedy by a purgative, then administering 2 drachms daily in treacle. It is more than probable that the good effects here were due to the alterative and aperient action induced, although Cawasjee⁸ insists that it is not only beneficial in all low forms of fever, but also a specific for malarial diarrhoeas.

Calomel.—In both the malarias of the tropics and subtropics calomel always has, and probably always will, figure largely. It was formerly held as a curative agent, but its use in this respect has been well nigh abandoned because of the supposed more specific action of quinine. Waring⁹ declares that the mercury salt, given in full dose, 2 to 3 scruples, will frequently abort any onset of malarial character.

Camphor.—A remedy of great power that has almost been lost sight of during recent years is camphor. Waring¹⁰ and a host of German and Anglo-Indian authorities assert that in *all* fevers, no matter what their original character,

¹ Practical Vade Mecum.

² Mat. Med. and Therap.

³ Mat. Med., Pharm., and Special Therapeutics, '89.

⁴ Bengal Dispensatory.

⁵ Ind. Ann. of Med. Sci., Apr., '56.

⁶ *Ibid.*, vol. III.

⁷ Report of Madras Med. Board, '90.

⁸ Prac. Vade Mecum.

⁹ Practical Therapeutics.

¹⁰ *Ibid.*

when they assume a low type, this drug proves a remedy of great value. Copland,¹ after quoting a host of German writers in favor of the drug, states that, in the stage of excitement attended by vital prostration, the dose, and the medicines which should be associated with it, should have reference to the state of the vital power, to the mildness or severity of the diseases, and to the nature of the prominent affection or complication.

Carbozoate of ammonia, or picrate of ammonium, has also received a share of attention during recent years. Clark² claims to have treated no less than 10,000 cases of malarial disease thereby, and to have kept a record of half the number. He chronicles but 9 failures in the 5000. He adds "all forms of malarial disease yield promptly" and that it is "a perfect and efficient substitute for quinine"; further, it has the advantage of being inexpensive, requiring but small dosage ($\frac{1}{8}$ to $\frac{1}{2}$ grain four or five times daily), and does not produce any unpleasant effects, such as headache, tinnitus, deafness, digestive disorders, nausea, etc. Popoff³ employed it in 42 cases, 37 of recent character, and all recovered, the paroxysms ceasing, on an average, in four days. In 3 of 5 inveterate cases the remedy failed. Bose⁴ tried picrate of ammonium in four cases with "wonderful results."

Castor is another remedy greatly neglected, but of undoubted power and value in fevers. It has long, in conjunction with myrrh, been considered as a specific in malarial fevers, but its reputation has passed away, owing to the substituting of the American—which is nearly inert—for Russian castor. Sennertus⁵ praises it above all antiperiodics.

Cerevisiæ Fermentum.—In malarial pyrexias of low type—bilious-remittent,

pseudocontinued, and even true continued fever—yeast, or "barm," the scum or residuum which forms during the process of fermentation of beer, has been employed on many occasions with signal benefit. Stoker,⁶ after a trial of its powers for upward of thirty years, speaks highly of its efficacy. Waring⁷ declares that it is generally easily taken, either alone or with any remedy that it may be advisable to join with it; and in the worst form of fever, when it is most needed, it not only is seldom rejected by the stomach, but the patient often expresses a liking for it. Stoker⁸ found that it acts as a stimulant, antiseptic, tonic, antiperiodic, and often as a gentle laxative; the latter action, if undesired, can be controlled by adding a few drops of laudanum. In the most obstinate cases of tympanitic distension, enemata of yeast and asafœtida are almost invariably efficacious. Tweedie⁹ considers yeast deserving of far more attention than has ever been given it. It is also strongly advocated by Lamprey,¹⁰ who declares that he cannot speak too highly of its properties: an encomium that is echoed by the late Hugh Bennett.

Charcoal.—Calagus¹¹ first called attention to the efficacy of wood-charcoal when given in 1- to 3-scruple doses; he believed it fully equal to cinchona in malarial fevers. Calvert,¹² who was physician to the British forces at Palermo, also employed it with success, and intimates that it is especially useful

¹ Medical Dictionary.

² Wien. med. Woch., '88.

³ Brit. Med. Jour., Oct. 27, '94.

⁴ Ind. Med. Rec., Mar. 16, '96.

⁵ De Febricitis, lib. II, cap. 20.

⁶ On Fevers.

⁷ Prac. Therap.

⁸ Op. cit.

⁹ Cyc. Prac. Med., vol. II.

¹⁰ Dub. Quar. Jour., Aug., '79.

¹¹ London Med. Rep., vol. III.

¹² Edinburgh Med. and Surg. Jour., vol. X.

when marked disturbance of the digestive organs exist, such as flatulence, diarrhoea, etc. The remedy, from a rational stand-point, would certainly seem worthy of further trial.

Corn.—Pruitt, of Arkansas,¹ calls attention to the efficacy of a distilled extract of common Indian corn. After the corn has been gathered, well dried, and freed from stems and mildew, 4 pounds of husks with 16 gallons of water are placed in a still having a capacity of 20 gallons. Ten gallons of the distillate are drawn off, which is clear, transparent, and in odor and taste resembles boiled green corn. For purposes of preservation, 8 drachms of alcohol and 4 of glycerin are added to each 15 ounces of distillate. The dose is 1 to 2 teaspoonfuls every two or three hours. The medicament has no especial value in cases of acute malarial infection, but appears to act specifically in chronic forms. The effects of the administration are speedily observed: the temperature soon declines, the irritability of the stomach subsides, the action of liver and kidneys is favorably influenced, and the enlargement of the spleen diminished. In many cases a mild diuretic effect may be observed.

Garrya.—The California fever-bush (*Garrya Fremonti*) Smith² considers as one of the most effective antiperiodics. Living, as he claims he does, in the South-Arkansas-River bottom, where, in his opinion, the fevers are of a malignancy equal to any in the world, he has found them terminate quicker under garrya than any other remedy. Usually the fever terminates in twelve hours after the drug is begun, and with profuse perspiration and opening of all the emunctories.

Gentian.—Gentian is another drug at

one time lauded, doubtless because of its bitterness. Chavasse,³ of the French navy, asserts that it is a complete prophylactic in the malarial fevers of Guiana. He declares that it neutralizes the miasmatic poison if taken before any pathological manifestation of the fevers had developed. He gave the tincture in brandy, twice daily, and considers that the addition of the spirit is important inasmuch as it excites the energies of the nervous system "so as to make it accessible to the operation of the drug." Certainly further light on this particular point is desirable.

Gulancha (*Cocculus Cordifolius*).—This is greatly esteemed by Hindoo practitioners, and many English officers—such as Stewart, Campbell, Hardie, Piddington, and others—claim to have employed it with success. Waring,⁴ after trying in twenty cases of malaria such as occur in the Tenasserim provinces, and in much larger doses than ordinarily advised, found that while it prevented the accession of the cold stage in every case, it did not appear to diminish the severity or prevent the return of the hot stage. This action is so peculiar that he suggests further trial. Cawasjee⁵ speaks well of it as an antiperiodic, alterative, tonic, and diuretic; hence—particularly as it is common to tropical America, and has been successfully employed as a tonic in the United States—it would seem worthy of further attention.

Iron.—The sulphate salt is certainly of value in intermittents, but more often in combination than when employed singly. Marc¹⁰ employed it with such

¹ Chicago Med. Times, June, '93.

² Therap. Gaz., '80.

³ L'Union Méd., Jan. 1, '60.

⁴ Prac. Therap.

⁵ Prac. Vade Mecum.

¹⁰ Sédillot's Jour. Gén. de Méd., vols. xxxiv, xxxvi; Med.-Chir. Rev., Oct., '33.

great success that Corvisart was appointed by the Academy of Medicine to make inquiry thereon; and, though he reported most favorably, from some unexplained cause the drug soon fell into disuse. Waring¹ employed iron in nearly 200 cases in the Tenasserim provinces of Burmah, and declares that in more than two-thirds of the number complete success attended the use of the drug: evidence that is too strong to be easily controverted. He remarks that it should not be used when there is much gastric irritability or where the patient is stout and plethoric with a determination of blood to the head; further that the bowels should be carefully regulated, and on no account should acids or acidulous fruits be allowed,—on these last two points he lays great stress,—adding that, properly employed, it is a remedy of great power. He gave from 8 to 10 grains daily, often with a little extract of henbane, in pill form, or in solution with infusion of quassia. Twenty grains daily may be ingested if required. [The writer has employed ferrous sulphate for many years with pronounced success.]

Labarraque's Solution.—The solution of chlorinated soda has long been known for its favorable effects in fevers of a low type, though modern medical fashion is wont to ignore it except as an antiseptic or disinfectant. The history of the preparation, carefully scanned, will be convincing that it is deserving of careful consideration as regards all forms of fever that exhibit any tendency to typhoid. The memoir of Lalesque and Gouzée² to the Paris Academy of Sciences as to its value in malarial fevers was so strong that a Committee of Investigation was appointed, who reported: "The hypochlorite of soda actually possesses febrifuge properties,

but does not produce the certain and energetic effects of quinine, and consequently cannot replace the latter in the more severe forms of fever. But it is not irritant, and recourse may be had to it in milder cases with advantage, especially as it exercises a favorable influence over engorgements of the spleen. The ordinary dose is from 10 to 30 minims in 1 to 2 ounces of water."

The Olive-tree.—In Italy and southern Europe the leaves and resin of the common olive are popular remedies for fevers of malarial origin. They may be employed separately or together. Giadoron³ reports several cases thus successfully treated, using the resin in 2-drachm doses six times daily (every two hours) during the intermission. The leaves were employed equally as often in doses of from 1 to 3 drachms. Hanbury⁴ speaks highly of the febrifugal properties of the olive.

Opium is a valuable adjunct in the treatment of malarial fevers, though not often employed nowadays as a direct remedy. Its use in this class of diseases dates from before the time of Galen; it subsequently lapsed, only to be reintroduced in modern times by Trotter,⁵ and to be taken up and warmly advocated by Lind.⁶ The latter declares that, if given in the intermissions, it has not the least effect either in preventing or mitigating the paroxysm; that when given in the cold stage it sometimes removes it; that when administered half an hour after the commencement of the hot stage it generally affords immediate relief. When given in the latter manner it shortens and abates the fit with more certainty

¹ *Prac. Therap.*

² *Revue Méd.*, Feb., '36.

³ *Ann. Univ. di Med.*, June, '61.

⁴ *Pharm. Jour.*, vol. xlii.

⁵ *Med. Naut.*

⁶ *Fevers and Infections.*

than an ounce of cinchona; it generally gives sensible relief to the head, takes off the burning heat of fever, and occasions a profuse sweat; it often produces a soft, refreshing sleep, from which the patient awakes bathed in sweat and, in great measure, free from all complaints. When thus given it certainly renders the patient less prone to liver disease, dropsy, etc. Waring remarks¹ that, while he cannot speak of the efficacy of the drug in the hot stage, he has often given 40 minims of laudanum at the commencement or even during the presence of the cold stage, which operated like a charm in cutting it short; and, although it did not appear to shorten the subsequent hot stage, it appeared in many instances to mitigate its severity. So fully aware of the foregoing were the soldiers under Wellington, during the Peninsular War, that, as Joseph Brown states,² at the first appearance of the cold stage they applied in most instances for an "ague-draught," which consisted of 40 minims of tincture of opium and 60 minims of ether. (These doses are excessive—for up-to-date human beings.)

Picric, or carbazotic, acid for a time received a measure of confidence in the treatment of intermittent, remittent, bilious-remittent, pseudocontinued, and other tropical fevers, but failed to justify the encomiums of its friends. In continued fever complicated with subacute peritonitis and tympanitis it has sometimes seemed to serve as well as quinine; but the uncertainty of its action gives ground for a suspicion that its supposed merits were matters merely of coincidence. The experiments of Erb seem conclusively negative,³ though Clark⁴ affirms that he has treated 10,000 malarial cases with it, and with such good

results that he has entirely abandoned the use of cinchona alkaloids. He gives $\frac{1}{8}$ to $\frac{1}{2}$ grain four times daily in pill form, $\frac{1}{8}$ grain being the average dose.

Pepper.—The dried unripe berries of the ordinary black pepper of commerce (*Piper nigrum*), bruised and macerated in rum (or other spirit) and water, has long constituted a popular remedy in the East and West Indies for the fevers peculiar to these regions; and it is also held in high repute by many German practitioners. Doubtless the more mild and uncomplicated cases will, as Waring⁵ believes, yield thereto, especially in the tropics, or even in the temperate zone during continued high temperature (see remarks under CAPSICUM, *ante*). They should be given immediately before the expected paroxysm.

Pepper-corn.—What has been said regarding black pepper is here equally applicable.

Piperine, which is obtained from black pepper, has been credited with febrifugal and antiperiodic properties, but the majority of observers seem skeptical. Hartle,⁶ of Trinidad; Meli and Gordini,⁷ of Italy; and Blom⁸ bear witness to an efficacy that is denied by Soubeiran⁹ and O'Shaughnessy.¹⁰ Waring¹¹ remarks that these differences may be partially explained, perhaps, by the different degrees of purity of the remedy. Hartle always began, as soon as the sweating stage was established, by giving 3 grains every

¹ *Prac. Therap.*

² *Cyc. Prac. Med.*, vol. II.

³ *Deuts. Klinik*, No. 40, '55; *Med. Times and Gaz.*, Sept., '62; *New Remedies*, '73; *Gaz. des Hôp.*, xiv, 116; *Ohio Med. Recorder*, '77.

⁴ *Lancet*, London, vol. I, '87.

⁵ *Prac. Therap.*

⁶ *Edinburgh Med. and Surg. Jour.*, Jan., '41.

⁷ *Revue Méd.*, t. III.

⁸ *Edinburgh Med. and Surg. Jour.*, Oct. 1, '37.

⁹ *Traité de Pharm.*, vol. II.

¹⁰ *Bengal Disp.*

¹¹ *Prac. Therap.*

hour until 18 grains had been taken, and on the following day, when the intermission was complete, he gave the same quantity every three hours. In "every case," he declares, "it succeeded in checking the paroxysm."

Phloridzina.—There is a neutral bitter principle which is found in the bark of the trunk and root of apple-, pear-, cherry-, and plum- trees known as phloridzina; it is crystallizable, sparingly soluble in water, readily so in alcohol, alkaline solution, and ammonia; there is also a derivative known as *phloretin*.

Phloridzina was discovered by de Konick in 1835, and he and many able men, such as Van Mons, Mathysen, and Lebaudy¹ bore strong testimony as to its most superior tonic and antiperiodic properties. Only a single unfavorable report was ever given against it, and that scarce half-hearted, by Leonhard,² but it practically passed out of sight until resurrected by de Ricci,³ who recommended a trial of it in every case where quinine is not easily tolerated. He affirms that it is much more easily taken than either cinchona, quinine, or salicin, the bitter being of a pleasant kind, changing into a sweetish taste, with the flavor of apple. No doubt this is a valuable remedy, though it has again practically passed from view; but one fact exists that appears not to be known, viz.: that, persisted in too long, or given in too large doses, it induces glycosuria, which, however, disappears as soon as the remedy is withdrawn. Merck's is perhaps the only house that now markets the product and also its derivative *phloretin*.

Potassium Permanganate.—Our correspondent, Dr. Levi, of the Virgin Islands,⁴ has employed this salt with very successful results, in doses of $\frac{1}{2}$ to

1 grain three times daily, dissolved in water; he asserts that this method is especially effectual in the chronic forms of malaria. Considering how quickly the salt parts with its oxygen when introduced into the circulation, its subcutaneous use would seem worthy of consideration.

Quassia.—At present this well-known bitter is, for the most part, held to be a simple tonic and stomachic, yet it first came into repute as a successful remedy in the treatment of the severe (malarious) fevers of Surinam, and to-day its reputation in the West Indies is little, if at all, dimmed. Thomas⁵ declares that during his residence in the latter region he met with many cases of malarial fever which, after resisting the powers of cinchona, gave way to the use of quassia. "Indeed," he adds, "so sovereign a remedy was this found, and so easy was it to be obtained, that it was pretty generally substituted by all practitioners." He advises that it be given in the form of an infusion 1 to 32. The fact will be recalled that this was a favorite remedy of the famous Lettsom in low fevers, and, according to his own account, a most successful one. The truth is, however, that most of the quassia obtainable nowadays is spurious, which may have something to do with its present comparative lack of repute as a febrifuge and antiperiodic.

Quinine-flower (*Sabbatia Elliotti*) may prove of considerable value in an emergency, especially as it grows wild in the southeastern United States. Bigelow⁶ asserts that all parts of the plant are

¹ Ann. de Thérap., '43; Bull. Méd. Belg., Oct., '35, and May, '36; and Jour. des Connals. Méd., '42.

² Ency. des Scien. Méd., May, '38.

³ Dub. Quar. Jour. of Med. Sci., Aug., '62.

⁴ Ann. Univ. Med. Sci., '88.

⁵ Prac. of Physic.

⁶ New Prep., '79.

antiperiodic, and that he treated seven cases of intermittent with it successfully. His views are corroborated by Palmer.¹

An allied species, also of Southern origin, the *Sabbatia campestris*, is equally lauded by Newton,² Padeir,³ Sparr,³ and Hall.⁴

Sodium chloride, common salt, has not escaped the list of remedies. Willemín, at one time Sanitary Physician in the East, in a report to the Paris Board of Trade⁵ stated that at Damascus large doses of table-salt are employed in intermittent and other malarious fevers, and that the remedy is successful in 6 of every 7 cases; two to four doses of $\frac{1}{2}$ ounce each, dissolved in water, are usually sufficient. Piorry⁶ is equally emphatic, declaring that from $\frac{1}{2}$ to 1 ounce at a dose not only controls the fever, but has a tendency to diminish the enlargement of the spleen. Both the foregoing statements are corroborated by Hutchinson,⁷ who, in 22 cases, prescribed from 8 to 12 drachms during a pyrexia; he asserts that it is a good, and obviously a cheap, substitute for the cinchona alkaloids and their salts, though inferior to the latter in power.

Sodium Sulphites.—Little⁸ employs both hyposulphite and also bisulphate of soda rather than quinine, and his results appear to have been eminently satisfactory.

Soymida febrifuga is an East-Indian bark that has gained a reputation as an excellent substitute for cinchona,⁹ but fell into desuetude when the price of the latter was brought within reasonable limits. While such East-Indian practitioners as Roxburgh, Duncan, and Breton—as well as many others of lesser note—thought well of it, O'Shaugh-

nessy¹⁰ considered it of very questionable efficacy.

Strychnos Nux Vomica.—The bark of this tree, as well as its nuts,—the latter the source of ordinary nux vomica,—undoubtedly possesses considerable febrifugal power, but Waring¹¹ regards its use inadmissible when there is either congestion of liver or spleen or any cerebral complications.

Strychnine.—Nash¹² reports 37 cases of malarial fever treated by strychnine in the Regimental Hospital, Gaol, and Civil Dispensary, Mercara, India, with a percentage of 75 in favor of strychnine over quinine in the period of recovery.

Sunflower.—Filatoff¹³ warmly praises the efficacy of a tincture of sunflower-stems made with corn-brandy (1 to 8) in tablespoonful doses three times daily. Many Russian physicians uphold this treatment, and it has acquired a definite *status* in many parts of southern Russia and in Siberia.

Sweet-flag.—*Acorus calamus* was formerly held in high estimation, and it is still a popular remedy in southern Europe and tropical Asia. Thompson¹⁴ declares that it often succeeds when quinine fails, and the late Professor Royle¹⁵ states that he frequently employed it in conjunction with chiretta and bonduc-nut with great success.

Synthetics.—ANTIPYRINE; ACETANILID.—Latterly, in some quarters, the

¹ Jour. Pharm., '79.

² Ther. Gaz., '81.

³ Ibid., '82.

⁴ Ibid., '81.

⁵ Waring's Prac. Therap.

⁶ Ann. de Méd. et Chir., vol. 1, '53.

⁷ N. Y. Med. Jour., Mar., '54.

⁸ Amer. Jour. Med. Sci., Jan., '70.

⁹ Waring's Prac. Therap.

¹⁰ Bengal Disp.

¹¹ Prac. Therap.

¹² Lancet, Lond., Mar. 14, '78.

¹³ Meditz. Oboz., Nov. 15, '93.

¹⁴ Prac. Therap.

¹⁵ Materia Medica.

treatment of malarial disorders by means of the synthetics, and more particularly the synthetic antipyretics, had been loudly advocated. Pampoukis, of Athens,¹ states that antipyrine and acetanilid have been extensively used by Greek physicians in all malarial disorders with satisfactory results in shortening the duration and mitigating the intensity of the febrile stage. He personally prefers antipyrine. On the other hand, Harley,² who appears to have employed the coal-tar antipyretics in a number of cases, regards acetanilid as the superior drug, because, as he asserts, of its greater power in reducing temperature and the absence of after-effects.

PHENOCOLL.—Cucco³ employed phenocoll hydrochlorate, another synthetic remedy, in 84 cases of malarial fever, giving the drug a few hours after the anticipated attack; in 52 cases the result was satisfactory; in 21 doubtful; in 4 an absolute failure; and in the remainder no definite conclusion could be reached. Vincenzo⁴ found the drug useful in 5 cases of grave character that would not yield to quinine. Of 28 cases thus treated by Cerna,⁵ 21 were successful; in 7 the drug failed, though temperature was reduced, 3 of which yielded to quinine; the other 4, in which quinine also failed, yielded to arsenic. Bernarda⁶ treated 20 cases, but also added quinine, arsenic, and iron; he had 3 failures. Feletti⁷ tried it in several cases, but found that the drug had only a transitory effect. Olio⁸ states that phenocoll does not appear to have any potent antipyretic properties as regards fever in general, but considers it as effective in the malarial state and succeeds in a certain number of cases where quinine absolutely fails, which he regards of importance if only from the fact that difficulty

might arise in obtaining a supply of quinine equal to the demand, while phenocoll is producible in any quantity. Quirogne,⁹ from experiments made in Algiers, concludes that phenocoll is no substitute for quinine in malarial disorders, but may be made a valuable adjunct thereto by reason of its analgesic properties; yet even very moderate doses are apt to cause symptoms of collapse.

METHYLENE-BLUE deserves, apparently, to be placed in much the same category as phenocoll. Guttman¹⁰ believes that the remedy prevents recurrence of paroxysm and exercises a toxic influence upon the malarial parasite; but, to insure the destruction of the latter, it should be given for four weeks after apparent convalescence. Mya¹¹ found that, while it exerted some influence on the course of the fever, in the majority of instances the effect was but slight or transient; he further notes that the drug is objectionable on account of the severe gastric pain, pyrosis, and strangury to which it gives rise, and that it likewise has a tendency to diminish excretion by the kidneys. Porenski and Blatters, of Cracow,¹² also observed unpleasant symptoms, such as headache, anorexia, and vomiting; but they consider that it may, in some cases, be as useful as quinine; it should, however, be reserved for those wherein the latter drug proves inefficacious. More recently Röttger and Riel,¹³ believing that the doses employed by other ob-

¹ *Le Prog. Méd.*, Jan. 9, '88.

² *Ind. Med. Gaz.*, June, '88.

³ *Therap. Monat.*, Apr., '93.

⁴ *Münch. med. Woch.*, Nov. 29, '92.

⁵ *Therap. Gaz.*, Dec., '93.

⁶ *Gaz. deg. Osp.*, Dec. 7, '93.

⁷ *Riforma Med.*, Apr. 11, '94.

⁸ *Gaz. deg. Osp.*, Jan. 14, '93.

⁹ *La Sem. Méd.*, Nov. 17, '97.

¹⁰ *Münch. med. Woch.*, Dec. 20, '92.

¹¹ *Lo Sperim.*, Dec. 31, '91.

¹² *Ther. Monat.*, Jan., '73.

¹³ *Deut. med. Woch.*, Apr. 9, '96.

servers were too large, experimented with small doses, frequently ingested (1 to 1½ grains, eight times daily), and reports the effect as most striking in producing rapid cessation of the attack in one case; in succeeding ones it only succeeded in modifying. There was no noteworthy modification produced as regards the *plasmodium malariae*, such as Guttman (see *ante*) imagined he had discovered. Finally, Laveran¹ made a study of the blood of pigeons treated with injections of methylene-blue, and failed to find any changes in the hæmatozoa, which are closely allied to those found in man; and a study of two cases of malaria along the same lines was equally negative.

Tannin.—Leriche² speaks highly of tannin in doses of from 20 to 30 grains, according to the intensity of the disease, when taken three hours before the paroxysm. Two or three doses, it is claimed, are usually sufficient to effect a cure, and it may be necessary to exhibit 60 or even 75 grains at once. The fact may be recalled that galls are a favorite Hindoo remedy for intermittents, and possessed of some efficacy, doubtless, though slight. It is important to note, however, all things being equal, that it requires a remedy of twice the strength of that employed by the Hindoo to procure a like effect upon the Caucasian. Unfortunately, the medical profession have become so accustomed to regard tannin as an astringent purely, that its other excellent remedial qualities have been entirely lost sight of.

Turpentine is another old-time remedy for low, continued, and inflammatory fevers of all types, the utility of which, in tropical remittents and intermittents,

but few seem to realize. Shapter³ asserts that in the third or last stage of tropical remittent, in doses of 30 minims, it is one of the most safe and useful remedies that can be employed, and that it almost immediately controls the character of the symptoms and changes entirely the character of the alvine secretions. Ward⁴ found it of great advantage in the management of the malarial fevers of Ceylon in doses of from 30 to 60 minims, given with sufficient castor-oil to act as a cathartic, and at the commencement of the cold stage; this he repeated before each succeeding cold stage, and frequently found that no other treatment was required.

Zinc Oxide.—In the fevers of Barbadoes Hendy⁵ found oxide of zinc, in doses of 2 to 5 grains, effectual when cinchona and other remedies had failed. Sir Gilbert Blanc⁶ bears equally-strong testimony regarding the drug.

Zinc Sulphate.—This salt has also been employed with success. The late Joseph Brown⁷ was accustomed to use it in pill form with ginger and conserve, giving two pills, each containing 3 grains of zinc sulphate, thrice daily during the intermission, gradually increasing as the stomach would bear it. He held zinc sulphate as second in value only to arsenic as an antiperiodic. McGrigor⁸ gave it to the soldiers in Spain and Portugal during the Peninsular War, to the extent of 30 grains daily, with great success.

¹ La Sem. Méd., Feb. 3, '93.

² Jour. dé Méd. et de Chir., Dec., '61.

³ Lib. of Med., vol. I.

⁴ Med. Times, Sept. 15, '60.

⁵ Waring's Prac. Therap.

⁶ Trans. Med.-Chir. Soc., vol. III.

⁷ Lancet, Lond., Oct. 17, '63.

⁸ Waring's Prac. Therap.

Insolation (Sun-stroke; Heat-stroke; Thermic Fever; Siriasis).

Symptoms.—De Santi,¹ who has had considerable experience in the treatment of sun-stroke in tropical and malarial countries, recognizes two distinct forms: the one, occurring in soldiers who have not had much training in marching and who soon become fatigued; the other, occurring in soldiers who have already suffered from malaria. The first variety is the one that we shall have the most cause to fear in the first portion of the campaign.

In the first form, the man, who has so far marched well, becomes silent, unbuttons his tunic, and, if asked, complains of violent headache and oppression; but he continues his march up to the moment when he becomes pale and falls, with convulsive movements, as if in attack of epilepsy. The teeth are firmly closed, the insensibility is absolute, the respiration difficult, the pulse small and irregular, and he often passes water in his trousers; what attracts special attention is the waxy pallor of the face.

The asphyxial attacks come on usually in young soldiers inexperienced in marching, with equipment badly distributed, or clothing too heavy or too tight, or perhaps the subject is delicate, or is already fatigued, or has drunk too much the night before. The weather is heavy, and the air is hot and loaded with dust. The patient moans, he streams with sweat, he drags in the rear, and if he continues his march he becomes paler and paler, while his lips become cyanosed; the jugular and temporal veins swell; the eyes become injected; the respirations shallow and quick, until the sufferer falls gently to the ground. He

generally does not entirely lose consciousness, and, when he is laid down and relieved of everything which interferes with respiration, breathes deeply and quickly becomes himself again. Sometimes, however, on coming around, various nervous symptoms, usually not important, supervene.

The malarial form generally occurs in old soldiers who have long struggled with paludism. The weather is very hot; the man marches ill on starting, but becomes more animated as he goes along. His face is red; he does not seem to feel the fatigue, but is thirsty; suddenly, as if struck down by a club, he falls face downward in a state of absolute coma. Here, generally, the face is turgid, but sometimes it is pale. This state may last for hours, twenty-four or thirty-six, and may terminate in death without recovery of consciousness. Generally, by reducing the temperature, by artificial respiration, by flagellation, and especially by the subcutaneous injection of ether, the coma passes away in half an hour or an hour, but it is apt to return.

Pathology.—The pathology of this malady has always been, and yet is, a matter of speculation. In a paper based upon upward of eight hundred cases Lambert² discusses the latest investigations and most recent views of the subject. The theory that the malady is an autointoxication is by no means new, but is not yet susceptible of definite proof. Gieson believes that the ganglionic cells of the spinal cord and encephalon un-

¹ Archives Gén. de Méd.; Brit. Med. Jour., July 18, '96.

² Med. Rec., July 4, '97.

dergo some degenerative change due to the operation of a toxic substance. The latter seems to possess a degree of possibility, in so far as is evidenced by the fact that the blood-serum of those bled during an attack of sun-stroke, even if injected in small quantity into rabbits, will cause the death of these creatures within an hour.

What seems to have been established is that heat alone is not sufficient to explain all the clinical and pathological observations in these cases. The prodromal symptoms of sun-stroke are those of acute functional disturbance, while the later symptoms, much more serious, point to grave changes in the blood and in all the nerve-centres, especially those of the latter which control the thermic mechanism of the body.

Martin¹ specifies three types of sun-stroke also: the cerebro-spinal, characterized by symptoms of intense congestion—by injection of the face and conjunctiva, by stertor, coma, and convulsions; the syncopal, or cardiac, type, made manifest by pallor of face and profuse perspiration, death taking place by arrest of the heart; and the pulmonary form, in which, in addition to some of the symptoms pertaining to the other two there are anxiety, dyspnoea, and asphyxia. He further adds that sun-stroke usually arises under conditions of mental or physical overactivity in conjunction with undue exposure to heat and a suppression of the secretions, the disease being dependent upon retention, in the system, of toxic products of retrograde metamorphosis.

De Santi² looks upon insolation as in all cases characterized, from a pathological point of view, by arrest of the heart, but as dependent on different causes. These may be classified as arising from

intoxication by the products of muscular effort; from asphyxia; from a malarial infection called into activity by fatigue or heat. In the first form, that of intoxication by the products of muscular exertion, the victims are chiefly among soldiers unaccustomed to the fatigue of a march. The attacks occur when the temperature is high and the air is calm and humid; so that the cutaneous evaporation is small, and generally in the second part of the march.

Etiology.—Sambon,³ of Rome, insists that the malady is due to infection pure and simple, and consequently possesses such elements of specificity as to entitle it to the term first bestowed thereon of siriasis; but he differentiates this "sun-stroke" from the mere syncope of heat-exhaustion. The latter may be brought about by excessive exertion under unfavorable conditions; while siriasis is due to excessive heat and occurs during the hottest season of the year. He calls attention to the fact that siriasis exhibits remarkable endemic characters, in that it is extremely prevalent in one locality, in another is totally absent, though the region may be quite adjacent and under precisely similar climatic influences; again, its ravages in different years vary immensely and quite irrespective of heat. Though Colin and de Santi (see *ante*) have considered siriasis as a form of malaria, Chevers and other Anglo-Indian surgeons long before remarked on the probability of sudden attacks of the disease being caused by "malaria in a concentrated form."

Phillips⁴ considers that meteorological conditions predispose to sun-stroke,

¹ La Sem. Méd., Sept. 16, '91.

² Archives Gén. de Méd.; Brit. Med. Jour., July 18, '96.

³ Brit. Med. Jour., March 19, '98.

⁴ Med. Rec., June 12, '97.

and these involve high temperature, relative humidity, wind, and climatological characteristics, as well as the direct rays of the sun. He thinks that the attack is no more dependent on high temperature and direct insolation than it is on low relative humidity. The degree of temperature precipitating sun-stroke is a function of the particular climate, and not fixed or definite for all locations.

Treatment.—Martin¹ antagonizes asphyxia by subcutaneous injections of from 15 to 30 minims of ether every hour, conjoined with artificial respiration. In the congestive type cold affusions should be made to the face and head, and rubefaction of the extremities induced. Subsequently, to prevent the recurrence of congestion and asphyxia, to re-establish the functions of the natural emunctories, and to favor the elimination of noxious matters, subcutaneous injections of cocaine (2 to 4 grains), with or without ether, three or four times in twenty-four hours.

Packard² as the result of treatment of thirty-one cases suggests the following: Put patient in the shade where there is as free circulation of air as possible, strip him, and, if the temperature is above 106°, apply ice to body until it falls to 104°, then dry and put to bed with an ice-cap to head. If convulsions occur at this time, he employs morphine; and, if circulation and respiration do not improve with the fall of temperature, bleeding may be resorted to.

Later, the same writer³ advocates, in addition to the foregoing measures, hypodermoclysis, and cites a case that seemed to have been fairly snatched from the jaws of death by the method.

Lewis⁴ suggests that a watery solution of antipyrine (1 to 2) be carried in the

pocket for instant use when there is danger of encountering cases of sun-stroke, and as soon as the patient is seen 20 minims should be administered hypodermically.

Gannett⁵ and Koerfer⁶ alike emphasize the value of chloroform to control the convulsions. In a case treated by the latter death seemed imminent, and the inhalation of the drug was begun while preparations for a cold bath were being made, and the result was immediate improvement of respiration, renewed cardiac activity, and improved pulse. Koerfer believes the utility of chloroform is derived from its power to diminish the irritability of the cardiac ganglia, thereby preventing the muscular fatigue upon which fatal heart-failure depends; it also acts as a sedative to the general nervous system, controlling the convulsive tendency, thus lessening heat-production, probably also facilitating heat-dissipation, and permitting the employment of other therapeutic measures directed to the reduction of temperature and supplying water to replace that lost in consequence of the pyrexia. If there is much respiratory disturbance, manifested by expiratory dyspnoea, Gannett advocates, where possible, the administration of oxygen by inhalation.

Hume⁷ reports dyspnoea and depression of the heart's action arising from partial sun-stroke, in an officer who had been marching all day in the hot Indian sun, and which he attributed to direct vagic inhibition. Three grains of ipecac relieved the patient and put him to sleep.

Atkey,⁸ of the P. and O. Service, em-

¹ La Sem. Méd., Sept. 16, '91.

² Amer. Jour. Med. Sci., June, '88.

³ Med. News, Aug. 22, '96.

⁴ Phila. Med. and Surg. Reporter, July, '88.

⁵ Boston Med. and Surg. Jour., Apr. 20, '93.

⁶ Deut. med. Woch., July 13, '93.

⁷ Lancet, Lond., Apr. 20, '89.

⁸ Lancet, Lond., Apr. 4, '96.

loys iced baths, ice to head, and brandy until there is a return of consciousness, then gives calomel.

Sickel,¹ Royal Navy, employs strychnine hypodermically, ice-water baths or ice-pack, enema to relieve the bowels, chloral, etc.

Smyth,² of the Royal Mail Steamship Line, also resorts to ice-baths and the ice-cap, but employs antipyrine to keep down temperature.

O'Dwyer³ employs the ice-pack and ice-cap, and dashes ice-water with force from dippers at distances of from eight to ten feet for thirty or forty minutes if necessary; but he finds the most efficacious stimulant, though it can be applied only one or two minutes at a time, a fine stream of ice-water poured from an elevation upon the forehead. Finally most patients are given subcutaneously 40 minims of digitalis at a dose, unless the sufferer is very plethoric, in which case venesection is practiced, and the fox-glove given later on in smaller doses.

De Santi,⁴ bearing in mind his differentiation of the varieties of sun-stroke (see *ante*), in the form he deems to be due from intoxication by the products of muscular effort, lowers the temperature by cold applications, sustains the heart by artificial respiration, and combats coma by the subcutaneous injection of ether. In what he terms the asphyxial form, little is needed but rest, pure air, and the recumbent posture. The malarial form includes subcutaneous injections of quinine, but the first indication is restoration of cardiac action by artificial respiration and ether hypodermically; he remarks that so important is the latter means considered in Germany that

during the summer marches every military surgeon is ordered to carry upon his person a Pravaz syringe and a bottle of ether in order to be always ready for cases of sun-stroke.

Prophylaxis. — Kinnear⁵ thinks that all those predisposed to heat-exhaustion will find safety in the employment, two or three times daily, of cold to the spine, or of a double-columned hot-water bag: a suggestion that seems worthy of consideration.

The colonial governments of Australia asked the medical board to issue appropriate instructions as to prophylaxis from sun-stroke. The board is stated to have declared⁶ that, of all predisposing causes, undue indulgence in intoxicating liquor is the most common and the most dangerous. Further, that during the attack it is dangerous to employ intoxicants as a remedy. Most people will cordially indorse this opinion. In many cases sun-stroke has practically been alcohol-stroke, and in other cases an injudicious resort to alcohol therapeutically has endangered the sufferer's life. Even by the abstinent, under extreme heat-conditions, it is essential that such common-sense precautions as the wearing of appropriate clothing, of light, non-radiating head-gear, and moderation of exertion should be adopted. Undoubtedly, *cæteris paribus*, the strictly abstinent have the least risk of heat-apoplexy.

¹ Brit. Med. Jour., Sept. 19, '96.

² Brit. Med. Jour., Jan. 9, '97.

³ N. Y. Med. Jour., June 5, '97.

⁴ Archiv. Gen. de Méd.; Brit. Med. Jour., July 18, '96.

⁵ Med. Rec., Aug. 21, '97.

⁶ Brit. Med. Jour., June 20, '96.

Scalds and Burns.

When troops are not in action burns are probably not more frequent among them than in civil life. On shipboard, however, the engineering department frequently contributes a sufferer, the majority of accidents in the engine-room involving the escape of steam or contact with heated metal. In war-times the chances in this particular are obviously greatly increased, the continued and sometimes excessive use of the engines increasing the likelihood of accidents while in action; besides these agencies, the fact that modern war-vessels are constructed of iron and steel adds considerable opportunity for injuries of this kind. The Battle of Yalu showed the effect of the blows received from projectiles upon armor; the heat developed by the impact was such as to cause the plates to become destructive to the tissues when touched. Capt. McGiffin of the *Chen Yuen* was thus severely injured. Aside from this are the many features incident upon rapid and continued use of weapons, contact with metallic fragments, etc. The casualties of this kind on board the Japanese ships were more numerous than any other kind among them.

Text-books usually contain but little information upon the practical aspect of the question. It is, therefore, deemed advisable to insert a description of the effects produced upon the tissues by scalds and burns furnished by a member of our editorial staff, Dr. J. Abbott Cantrell, and to give a list of the most effective methods of treatment at present resorted to.

Symptoms.—**LOCAL EFFECTS.**—"In burns of the first degree the appearances

produced are superficial. There will be observed a distinct hyperæmia, with redness of varying intensity from the slightest blush up to a pinkish red or brownish red. This may or may not be entirely effaced by pressure. Persons of fair complexion or thin, delicate skin are affected more greatly by the same amount of heat than will be those of darker hue or more dense integument. Swelling is present to a slight degree, and does not extend far beyond the limits actually exposed to the burning substance. This type of burn is produced by indirect contact with the flame of a lighted match, proximity to a heated metal, escaping steam, and the actinic rays of the sun. With or without treatment the effect of burning to this extent may disappear shortly after removing the exciting cause.

"Resolution takes place in this variety by the disappearance of the swelling, the serous infiltration being absorbed, the color diminishing to the normal except in those cases in which a slight degree of pigmentation is left in the form of ordinary increase, which usually disappears as time progresses or where the sun's rays cause, perhaps, a permanent stain, such as lentiginous patches. The linear fissures of the skin appear prominent because of the semidetachment of the membrane between them, which, as time passes, the new skin forming beneath compels their complete detachment in the form of minute flakes of deadened epithelium.

"In burns of the second degree the inflammation, while yet superficial, may still occupy the entire epidermis. In some cases the upper layers alone of the cuticle may be destroyed, while vesicles

or bullæ may be observed over the affected surface. In still other cases the corium is stripped entirely of its epidermal covering or particles of the membrane may be rolled into whitish masses over its exposed surface. These vesicles, or bullæ, may be produced directly by the contact of the heated article or indirectly by the consequent inflammation. They may retain their contents; or, owing to the increased flow of serum, their walls, becoming thin and losing their elasticity, rupture, thus allowing the escape of a continual discharge over the denuded surface. The true skin, which is exposed either entirely or at points, shows a highly-reddened surface, over which this continuous exudation may be observed. The papillary vessels are seen to be deeply congested, or, if ruptured, their flow of blood intermingles with the discharge of serum and gives it a tint of red. Swelling is present in both of these conditions, but will be governed by the extent of surface and the density of the part involved. In this type of condition actual contact with the heated substance takes place either in shorter or longer durations.

"Such articles as heated iron, transient or lengthened action of flames, and boiling liquids may be the exciting agent. The effects of this form of burn do not always show to what extent they have progressed immediately upon the removal of the cause because of the systemic conditions which may be induced. Pain is always present to a minor or major degree. Resolution takes place through coagulation of the serous discharge, which occupies the involved area as a fibro-albuminous covering, beneath which the new skin is allowed to form. After the new integument has progressed almost to its normal aspect this covering,

which by this time has become a darkish crust, becomes loosened and falls off, exposing a thin, delicate skin, through which the more vascular structures immediately beneath are observed. It is not for weeks, months, or even years that the normal pinkish-red tint of the skin is restored. Burns of this character usually leave a fairly-normal aspect to the surface and rarely cause the formation of cicatrices. If a cicatrice is formed it is generally superficial and flattened, resembling to a marked degree the flat, sebaceous warts observed in the aged.

"In burns of the third degree the inflammation or destruction may be superficial, extending over considerable area, or deep, affecting the subcutaneous tissues, muscles, and even bones. In those of the superficial variety the extent of surface involvement may be variable, in one instance occupying a portion comparing with the size of the hand, and in others being observed upon portions ranging from six or seven inches to areas as large as one limb or even one-third or one-half of the body-surface. In this variety the epidermis alone may be destroyed and expose the corium to view, covered with particles of charred cuticle, or the corium itself may share in the destruction, being deposited over the affected areas in strips of dried eschars. The parts uncovered by these destructive influences present, either the corium or subcutaneous tissue, a highly-vascular aspect, from which there is a continuous exudation of serum intermingled with the escaping blood. The dead tissues vary in proportion according to extent of heat, its length of contact, the thinness or density of the part involved, and the amount of surface encompassed. They may be thin or thick, large or

small, and retain their hold for longer or shorter periods. Resolution takes place in the uncovered variety in the same manner as described under the foregoing degree, while in the covered variety granulations spring up beneath the charred remains, which, after a time, desiccate and fall off, exposing a similar surface to that of the second degree. In the deeper form of burn the extent of surface involved may be small or large, but may dip down to varying depths. It may be limited to the destruction of the skin (epidermis and corium) and the subcutaneous tissues, or it may expose the muscles, attack the nerve- and blood- vessels (allowing hæmorrhage), and even the bone. The amount of charring will usually be very great and will lay about in masses over the burned surface, thus preventing a view of the destruction beneath. In some cases the degree of loss will be so enormous that the bone will be entirely stripped of all covering. Hæmorrhages will often be encountered and may result fatally. Fractures of bone will occasionally complicate matters. This variety will show both the first and second degrees at areas remote from the greatest destruction. Resolution, even in the milder cases, is slow, and before such happens surgical interference may be demanded. The same appearances may be noted throughout its process as found in the superficial variety, but to a different degree. The causes which bring about this form of burning are usually dry heat (flames or contact with electric wires), and it generally causes much greater destruction than will moist heat. The effect upon the system is generally of an alarming character and shock may carry off the person before relief can even be attempted."

BURNS OF MUCOUS SURFACES.—"The mucous surfaces may be affected by the inhalation of flames, vapors (volatile or boiling acids), boiling liquids (water, slacked lime), and by certain substances acting directly, such as ammonia and sulphuric and hydrochloric acids. The mouth, pharynx, larynx, bronchi, and the œsophagus, as well as the stomach, share in the attack. The eye often, from its exposed position, is the seat of irritation. The irritation produced at these parts is often of a gentle inflammation, or ulcers may be the result. Other than in the mouth, we, unfortunately, cannot make an examination. Thompson,¹ of London, records an instance in which a roasted chestnut (which had not been nipped before cooking) burst in the mouth, causing an ulceration of both the tongue and hard palate. Conjunctivitis often results from irritants coming into direct contact with the eye, and if the exciting agent is not early removed great destruction of substance or sight may be the result."

CONSTITUTIONAL EFFECTS.—"The effects of burns of the first degree upon the system are generally slight and are mostly those of pain, which disappears shortly after the removal of the exciting agent, but often may last for several hours. In burns of the second degree the pain accompanies the phenomena not alone for hours and days, but often for weeks and even months. The shock may be of a transient character or of an alarming intensity. It may be encountered at the time of accident or be delayed for periods varying from hours to days thereafter. When small areas are involved the depression may soon be relieved; but, when one-fourth or one-

¹ Lancet, vol. 1, p. 368, '88.

third of the body is attacked, death may intervene, and still death rarely fails to claim the victim of burns occupying one-half of the structure. Complications of severe character are usually an accompaniment of this degree. Burns of the third degree may be so severe that death intervenes before pain has time to appear. Shock at this stage is therefore observed early and of the worst character. Early mortality is generally due to the shock, while late mortality usually occurs during the stage of suppuration. Vomiting is often observed in both the second and third degrees. Children suffer more from burns than do adults, and women more severely than men. The temperature is not affected by burns of the first degree, but is a marked symptom in those of the second and third. At the time of the accident it may decrease from one to three degrees below the normal (to 97° or even 95°) and remain at that point until reaction begins, which is in about 36 or 48 hours, when it rises during the next 12 or 18 hours to 104° or 106° or more, at which point it remains for a period of 8 or 10 days (possibly rising and lowering at irregular intervals), when granulations, now in a fair formation, act as a retarding agent."

Treatment.—The object of this article being to review the newer contributions to our list of remedies, the well-known measures employed for minor burns and which all surgeons well know will not be described. Suffice it to say that the application of bicarbonate of sodium mixed with enough water to make a thick paste, lead-water and laudanum, equal parts of white of egg and sweet oil, and white-lead paint—which causes the pain to cease almost immediately—have best stood the test of time. It must

be said, however, that many newer agents are much more effective, both for minor and major injuries; these it is our purpose to review.

Picric Acid.—In superficial burns this agent has been found useful by so many observers who had employed it in a large number of cases that the adverse reports recorded are not sufficient to warrant its rejection as one of our most active agents. It not only procures rapid resolution, but its analgesic action is marked in the majority of cases when employed properly. In deep burns, however, it may give rise to toxic symptoms, and it should not be employed, especially in the case of children, Walther, Latouche, Berger, and Tuffier,¹ having reported marked cases of poisoning in the latter.

Picric acid is a product of the action of nitric upon carbolic acid. It occurs in the form of fine, yellow scales, which are soluble in water and alcohol. It is extensively used as a dye, giving a brilliant-yellow color to objects over which it is applied. Owing to this property, it stains the hands of the operator unless these be previously smeared with vaselin. Stains may also be removed from the skin by means of alcohol or soap and boric acid. D'Arcy Power, who employed it extensively, used a solution made by dissolving 1½ drachms of picric acid in 3 ounces of alcohol, which is then diluted with 2 pints of distilled water, a saturated solution being thus procured. The clothing over the injured part should be gently removed, and the burnt or scalded portion should be cleaned as thoroughly as possible with a piece of absorbent cotton-wool soaked in the lotion. Blisters should be pricked and the serum should be allowed to es-

¹ Medical Record, Feb. 26, '98.

cape, care being taken not to destroy the epithelial surfaces. Strips of sterilized gauze are then soaked in the solution of picric acid, and are so applied as to cover the whole of the injured surface. A thin layer of absorbent cotton-wool is put over the gauze, and the dressing is kept in place by a light linen bandage. The moist dressing soon dries and it may be left in place for three or four days. It must then be changed, the gauze being thoroughly moistened with the picric-acid solution, for it adheres very closely to the skin. The second dressing is applied in exactly the same manner as the first, and it may be left on for a week.

The great advantages of this method of treatment are: first, that the picric acid seems to deaden the sense of pain; and, secondly, that it limits the tendency to suppuration, for it coagulates the albuminous exudations, and healing takes place under a scab consisting of epithelial cells hardened by picric acid. A smooth and supple cicatrix remains, which is as much superior to the ordinary scar from a burn as our present surgical scar is superior to that obtained by our predecessors, who allowed their wounds to granulate.

According to Miles,¹ the advantages of picric acid are: simplicity, painlessness, asepsis, small amount of discharge, infrequent dressings, astringent action in preventing inflammation, property of promoting the growth of epithelium, rapid separation of sloughs, absence of poisoning symptoms, and economy in dressings. Its use should cease, in his opinion, when inflammation has subsided and granulations have formed.

Thompson,² of St. Louis, who used it in fifty cases, states that it is advisable to let the shreds of clothing which have

been burned into the skin remain until the second dressing. The cloth having been aseptized by burning, it will do no harm by remaining, while its removal can only be accomplished by stripping away the flesh. The cloth will act as a capillary drain into the skin and it will promote a permeation of the acid solution into the injured tissue. At a second dressing the thoroughly-soaked fibres can be more easily removed. Dressings soaked in a picric-acid solution do not adhere as much as other applications.

Picric acid has also been employed advantageously by Thierry,³ Filleul,⁴ Papazoglou,⁵ Sila Novitsky,⁶ Souter,⁷ and others. The author last named simply paints the saturated solution over the burnt surface with a large camel's-hair pencil and leaves the primary dressing, covered with oiled silk and cotton-wool, on, for a period of from three days to a week. He adds that the solution is used with much success in iron-foundries and sugar-refineries, a large bowl of it being kept in readiness for emergencies. This procedure could be imitated with advantage on board of war-vessels, especially during action.

Aristol presents the advantage of being useful in burns of the second and third degrees. It occurs in crystals of a light-reddish-brown color, is soluble in water, slightly soluble in alcohol, and freely soluble in ether and fats.

In burns of the second and third degrees it has been found strikingly effective where other remedies had failed. Haas⁸ states that the pain is almost instantly relieved and that healing is

¹ Brit. Med. Jour., July 17, '97.

² St. Louis Med. Review, Feb. 20, '97.

³ Provincial Med. Jour., Dec. 6, '95.

⁴ L'Union Pharmaceutique, Dec., '95.

⁵ Thèse de Paris, '96.

⁶ Bull. Méd., p. 687, '97.

⁷ Brit. Med. Jour., Jan. 2, '97.

⁸ Deut. med. Woch., p. 783, '94.

rapid. R. Y. McCoy,¹ to illustrate its value in ulcerative processes occurring as a result of burns, cited the case of an engineer in whom a scald had caused excessive suppuration of legs, knees, and soles. An ointment of aristol changed the appearance in twenty-four hours, and the healing process continued steadily and with unusual rapidity.

It may be used in the form of powder or mixed with oil or vaselin. The surface should be disinfected with a boric-acid lotion, and after opening the vesicles aristol is applied and the whole is covered with sterilized cotton-wool, gutta-percha paper, and a bandage. The application of aristol powder directly to the wound at the beginning hinders the dressing from soaking up the secretion; when the latter has diminished, however, aristol may be applied either alone or in a 10-per-cent. ointment with olive-oil, vaselin, and lanolin.

Walton,² of Ghent, has used the following ointment in the treatment of extensive burns:—

R. Aristol, 1 part.

Sterilized olive-oil, 2 parts.

Vaselin, 8 parts.—M.

Around the edges of the burns, after the ointment is spread, he dusts the aristol in powder form. In burns of small extent he employs the powder form only. Cleanliness must be thorough whenever the dressing is changed. One of the great advantages of aristol is its freedom from poisonous effects. There is some smarting at first, but it soon passes off.

Cookman³ states that aristol may be used in all varieties of burns, from a simple erythema of the skin to a complete charring and destruction of the tissues. In the superficial form it is best

used as a powder, while in the deeper burns the following ointment is to be preferred: Aristol, 1 part; olive-oil, 2 parts; dissolve and add vaselin, 8 parts. He considers strict asepsis of the wound, however, as the first essential to success. After pricking all the blebs and permitting the serum to exude, the burn should be well irrigated with a weak solution of boric or carbolic acid, and its surroundings scrubbed with soap and water. Then with sterilized absorbent cotton the surface should be gently dried, and the aristol applied, either as a powder or an ointment. If the latter is used the wounded edges are first dusted with the powder, and then sterilized gauze on which the ointment has been thickly spread is applied. The dressing is completed with another layer of gauze, absorbent cotton, and a bandage. After three days this should be removed, the wound and adjacent parts aseptized as before, and the same dressing reapplied. By careful treatment in this manner very extensive burns will rapidly cicatrize.

Ichthyol is also efficacious in treatment of burns of the first and second degrees. Leistikow found that it allayed the pain at once. Slight, superficial burns heal rapidly. In burns of the second degree with the formation of bullæ, even when extensive areas are involved, the remedy also acts favorably. It is used dry, diluted with zinc oxide or bismuth, the powder being spread evenly over the surface; in ointment (10 to 30 per cent.); or as a combination of these two methods. The powder is the most satisfactory form in extensive burns of the first degree, and should be plentifully

¹ New England Med. Mo., Dec., '91.

² Practitioner, July, '97.

³ Habnemannian Monthly, Mar., '97.

applied. In extensive burns of the second degree the soft paste is preferable.

The zinc-oxide powder may be combined as follows:—

- R** Ichthyol, 1 to 2 parts.
Zinc oxide, 20 parts.
Carbonate of magnesia, 10 parts.
—M.

While the paste is mixed as follows:—

- R** Carbonate of lime, 10 parts.
Zinc oxide, 5 parts.
Oil, 10 parts.
Lime-water, 10 parts.
Ichthyol, 1 to 3 parts.—M.

Europhen contains about 28 per cent. of iodine, which it yields on exposure to moisture. It is similar in action to iodoform, but has the advantage of having a less disagreeable odor. Again, it is less poisonous; does not become aggregated in masses, or "cake"; and is much lighter. It is, therefore, a valuable agent in burns. It may be employed in the form of powder; but a dressing consisting of 3 parts of europhen and 7 parts of olive is to be preferred. Nolda,¹ who has used it considerably, employs the following:—

- R** Europhen, 1 part.
Vaselin,
Lanolin, of each, 10 parts.—M.

This he applies three or four times a day to burns limited to rubefaction or vesication.

As it only becomes active in the presence of moisture, its beneficial effects in the presence of secreting surfaces is obvious.

Thiol.—Thiol has been found useful for all degrees of burns. According to Bidder,² it allays pain very rapidly and arrests cutaneous hyperæmia. In this manner it tends to prevent ulceration and scars. Giraudon³ has found it espe-

cially valuable in burns of the second degree, and he also observed that supuration and cicatrices were avoided even after burns of the third and fourth degrees.

The parts are first washed with a weak antiseptic solution, and the cuticle that may be hanging loose from ruptured blisters is removed, taking care to leave intact those that have not opened. After dusting the burn with boric acid the entire surface of the burned region and the skin around it are painted with a solution of equal parts of thiol and pure water. A layer of greased cotton is then laid on the burn, and kept in place with a loose bandage.

Chloral-hydrate.—The antiseptic and sedative properties of chloral-hydrate make the application of a 5-to-30-grain-to-the-ounce solution quite useful in superficial burns.

Nitrate of Potassium.—Nitrate has been found to be useful in all kinds of burns by Poggi,⁴ and may be employed to great advantage when the other agents described cannot be had. It acts mainly as a refrigerant by causing notable lowering of the temperature of the liquid used as solvent.

If a burned hand or foot is plunged into a basin of water in which a few spoonfuls of the nitrate have been placed, the pain ceases rapidly; if the water becomes slightly heated, the pain returns, but it is allayed as soon as a fresh quantity of the salt is added. This bath, which is prolonged from two to three hours, may bring about the final disappearance of the pain and even prevent the production of blisters. The application of the compresses also exercises the

¹ Gaz. Heb. de Méd. et de Chir., July 11, '97.

² La Clinique, May, '95.

³ Thèse de Paris, '95.

⁴ Revue Méd., Feb. 16, '96.

same influence. By this means the pain is allayed and cicatrization takes place without delay.

Calcined Magnesia.—M. Vergely¹ obtained favorable results with this salt in burns of the first and second degrees. The affected parts are covered with a thick layer of paste, which is prepared by mixing the calcined magnesia with a certain quantity of water. This paste is allowed to dry on the skin, and, when it becomes detached and falls off, it is replaced by a fresh application. Very soon after the paste is applied the pain ceases, and under the protective covering formed by the magnesia the wounds recover without leaving the cutaneous pigmentation which is often observed to follow burns that have been allowed to remain exposed to the air.

Turpentine.—H. L. McInnis² states that spirit of turpentine applied to a burn of either the first, second, or third degree almost at once relieves the pain, whence the burn heals rapidly. After wrapping a thin layer of absorbent cotton over the burn the cotton is saturated with common commercial turpentine and covered with bandages. Being volatile, the turpentine evaporates, and it is therefore necessary to keep the cotton moistened with it. When there are large vesicles these are opened on the second or third day. It is best to keep the spirit off the healthy skin, if possible,

to avoid the local irritation. Turpentine is also particularly useful when the granulations are sluggish. It is a valuable agent for the treatment of burns aboard ship, where turpentine is always on hand.

White-lead paint, referred to early in this article, was extensively used by Prof. S. D. Gross in mild and severe cases, and the results obtained were often remarkable. This excellent remedy is likewise always on hand on board ship.

General Measures.—Emphasis was laid by Paul Tschmarke, of Magdeburg,³ upon the great importance of keeping the injured part aseptic; the patient may recover from the shock only to die of blood-poisoning. This is especially to be feared where the side of the face and the chest are extensively burnt. The wound should at once be thoroughly disinfected. He then covers it with subnitrate of bismuth, and then with iodoform gauze, kept in place by light bandages. If the bismuth powder is found to irritate the skin and the raw surface, after it has been applied for a few days, he replaces it by boric ointment. Every change of dressing should be made in a bath, in which the previous substances applied are allowed to soak off.

¹ *Revue Méd.*, Feb. 16, '96.

² *N. Y. Med. Record*, Sept. 5, '96.

³ *Deut. Zeit. f. Chir.*, vol. xlii, pp. 346-392, '97.

New Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

Report on Bubonic Plague. Being a Report Based upon Observations on 939 Cases of Bubonic Plague Treated at the Municipal Hospital for Infectious Diseases at Arthur Road, Bombay, from September 24, 1896, to February 28, 1897. By Khan Bahadur N. H. Choksy, Bombay, 1897.—An Index to the Transactions of the Clinical Society of London. Vols. i to xxx. Longmans, Green & Co.,

London, 1898.—Tumor of the Spine; Compression-mylitis; Operation; Death on the Ninth Day. By J. T. Eskridge, M.D., and E. J. A. Rogers, M.D., Denver, Col., 1898.—Amblyopia from Suppression, Congenital Imperfection, or Disuse; Which or All? By Leartus Connor, A.M., M.D., Detroit, Mich., 1898.—A Series of Specimens Illustrative of Certain Congenital Affections of the Urinary Apparatus. By L. R. Sutherland, M.B., and E. H. Edington, M.D., C.M.Glasg., 1898.—The Infection of Primary Acquired Syphilis. By I. M. Koch, M.D., Philadelphia, 1897.—Amitol in Diseases of the Skin. By I. M. Koch, M.D., Philadelphia, 1897.—Some of the Therapeutic Properties of the Thyroid Gland. By J. T. Eskridge, M.D., Denver, Col., 1898.—Calomel as a Curative Agent in Diphtheria. By Leonardo D. Judd, M.D., Philadelphia, 1897.—Mount Pocono, Pennsylvania, as a Health-resort. By L. D. Judd, M.D., Philadelphia, 1896.—Pharyngitis Herpetica Associated with Menstruation. By Lewis S. Somers, M.D., Philadelphia, 1898.—A Description of Hospital Buildings on the Pavilion Plan. By Albert Vander Veer, M.D., Albany, 1898.—A Case of Phlegmonous Gastritis Following Ulcus Carcinomatosum of the Pylorus—Dilatation, Perforation, and Peritonitis—A Clinical History of Fourteen Months with Chemical, Bacteriological, and Histopathological Study. By John C. Hemmeter, M.B., Ph.D., M.D., and Delano Ames, A.B., M.D., Baltimore, 1897.—Experience with Pilocarpine in the Treatment of the Uræmia of Bright's Disease. By Charles J. Proben, M.D., New York City, 1896.—Report of a Case of Floating Spleen in an Infant following Malaria. By Charles I. Proben, New York City, 1895.—Malarial Fever in Infancy and Childhood; Its Etiology, Symptomatology, and Treatment. By Charles I. Proben, M.D., New York City, 1895.—Certain Conditions of the Tonsils which Limit the Usefulness of the Tonsillotome. By Arthur Ames Bliss, A.M., M.D., Philadelphia, 1898.

CONSECRATION.

Upon red battle's awful verge,
We lift suppliant hearts to Thee—
Who, throughout all the years,
Hast ruled above the free.

Not in the pride of power,
Not in the hope of gain,
We move with battle-flags
Upon the ranks of Spain.

Not because that we are strong,
Not because that she is weak,
Do we to battle come,
Do we her armies seek.

Not because of ancient wrongs,
Done to patient, subject lands,
Have we placed the gage of war
In the Spaniards' bloody hands.

But we hear upon the southern wind
A helpless, suffering people's cry,
Borne across the gulf-stream's rushing wave,—
"Bring to us succor, or else we die."

'Tis to Thee we owe our power;
To Thee we owe our country fair;
'Tis from Thee all blessings come;
To Thee we lift our humble prayer.

And Thou hast taught in ancient days,
To save the weak from bitter wrong.
They cry aloud in sore distress,—
They who are weak—to us the strong.

We come not hither to avenge;
No conquest calls across the wave;
We only do Thy holy will:
To right the wrong, the weak to save.

Let not the haughty pride of power,
The love of battle's fierce array,
Lead us from the narrow path,
Our sense of right and justice sway.

Thine to avenge the wrong,
Ours to uphold the right;
Lead us onward, oh Lord, we pray!
Protect us from dark error's night.

And with hearts sustained by Thee,
Now let us forward steadfast go;
The war-drums roll, the bugles call,
To do Thy will we seek the foe.

—FRANK ALASTON DAVIS.

THE MONTHLY CYCLOPÆDIA OF PRACTICAL MEDICINE.

Vol. XII.
Old Series.

PHILADELPHIA, JUNE, 1898.

Vol. I. No. 6.
New Series.

TABLE OF CONTENTS.

PAGE	PAGE	PAGE
TROPICAL DYSENTERY. 292	Naphthol Compounds. Clark, Kart- tulis, Hinterhof, Glinesky, Whitla, Rosbach..... 213	vidson, Waring, Webster, Taylor, ' Charles Forbes 223
Etiology. Kartulis, Councilman, Grasser, Simon Flexner, Hirsch..... 202	Marcotine (Anarcotine). Waring, O'Shaughnessy..... 214	Scorpion. Stockwell, Espinosa, Ban- erjee, Poreli, Vinze, Joseph Ben- jamin..... 224
Prophylaxis. Osler, Flexner, Prieur, Bertrand, Archintre, Daniel..... 203	Quinine. Waring, Clark, Douglass, Huxam, Butler, Osler..... 214	Centipede 226
Treatment. 205	Silver Nitrate. Stevens, Roth, Hale White, Ringer, Butler, Fothergill, Sir G. Baker, Galley, West, Day- abhai..... 214	Snakes. G. Archie Stockwell, G. B. Halford, Brenning, Weir Mitch- ell, Reichert..... 226
Ipecac. Pilo, Marais, Sloane, Heis- ter, Vater, Annesley, Twining, Ainslie, Goddies, Mortimer, Bal- lingall, Playfair, Balmair, Fergu- son, Waring, Aitken, Niemeyer, Ward, Webster, Fothergill, Pere- ira, Thompson, Pringle, Clegghorn, Freind, Cambay, Stillé, Tanner, Goss, Farquharson, Roth, Wood- hull, H. C. Wood, Surgeon Major Harris, Surg. Capt. Walsh, Kant- hack, Caddy, Whittle, Doeker, Cornish, Balmair, Zimmermann, Playfair, Delieux, Maclean, Whitehead, Hale White, Cas- vajee, Biddle, Martindale, West- cott, Murrell, Ringer, Sainsbury, Butler, Pearce, W. W. Johnston, W. J. Buchanan, Testevin, T. R. Wiglesworth..... 205	Labarraque's Solution. Morse..... 214	Treatment. G. Roux, Hirschhorn, A. Mueller, Joshua Duke, Ban- erjee, H. C. Yarrow, Lacerda, Sal- den, Calmette, Phisalix, Bertrand, Hodgson, Mackenzie, Early..... 228
Magnesium Sulphate. Troussau, Giacomini, Stillé, Waring, Austin Flint (Sr.), Webster, Locke, Goss, Stevens, Biddle, Nevius, Baha- durji, Cawajee, Leahy, V. G. Thorpe, W. Wyatt Smith..... 209	Sodium Sulphate; Sodium and Po- tassium Tartrate. Biddle, Arch- intre..... 215	Leech. Stockwell..... 231
Substitutes. 211	Tannin and Drugs Containing Tan- nic Acid. Farquharson, Biddle, Butler..... 215	Bees and Wasp stings. Marquis, Vinze..... 232
Aconite. Born, Webster, Locke..... 211	Turpentine. Copland, Waring..... 215	Cyclopædia of Current Literature.
Acid Carbolic. Amelung, Butler, Mattison..... 211	Veratrum Viride. Ragland, Waring..... 215	Albumin, Significance of, in Urine. Porter..... 232
Acid Cresotic. 211	Zinc Salts. 215	Alcohol, Use of. Clouston..... 232
Acid Salicylic. Cumball, Campbell..... 211	Intravenous Injections. Bosc, Ve- del..... 215	Beriberi. Crosthwait..... 232
Alum. Biddle, Ringer..... 211	Surgical Measures. Patterson, Step- han..... 215	Symptoms 232
Arsenic. Webster, Ringer, Sains- bury..... 212	TROPICAL DIARRHŒA. Parkes..... 216	Treatment. 233
Antipyrine. Ardin-Delteil..... 212	Etiology. Wood, Fothergill, Parkes, Annesley, Twining, Griesinger, Mount, Hirsch, Sir Joseph Fayrer..... 216	Cerebral Hemorrhage. Freyberger..... 233
Bismuth 212	Treatment. Fayrer, Fothergill, Frout, Lemons and Limes..... 217	Cholagogues. Snow..... 233
Camphor. Biddle..... 212	Ipecac. Waring, Linnaeus, Fother- gill, Sir G. Baker..... 217	Douches, Nasal, Abuse of. Lichtwitz..... 234
Cinnamon. Avestoom..... 212	Ergot. Wright, Stout..... 217	Dysentery, Amœbic Form. Harris..... 234
Colocynth. Webster, Goss, Locke..... 212	Apertients. Clapton, Chambers..... 217	Dysentery, Tropical 234
Oreolin. Johnston..... 212	Raw Meat. Drullt..... 218	Etiology 234
Ergot. Gross..... 212	Zinc Oxide. Brakenbridge..... 218	Treatment. Surgeon-Major Fink, Sur- geon-Captain Johnston, Attygalls..... 235
Garlic. Pilloy..... 212	Castor-oil; Epsom Salt; Opium. Tongue, Duffin, Broadbent..... 218	Ear, Suppuration of Middle. 235
Iodine. Kotschowsky..... 212	Cresote. Johnson..... 218	Operative Treatment. Müller..... 235
Mercuric Chloride. Lemoine..... 213	Other Remedies. Webster, Goss..... 218	Enteric Fever. 236
Mercurous Chloride. Sir Ronald Marlin..... 213	VENOMOUS BITES AND STINGS 219	Symptoms. Openchowski..... 236
Mudar. Durant..... 213	Mosquito. 219	Fracture of Elbow-joint. 236
Monsoni Avata. Maberly..... 213	Prophylaxis. Public Health Jour- nal..... 219	Treatment. Smith..... 236
Naragamia Alata. Bictre, Schoen- gut..... 213	Treatment. Neal, Ottinger, Morris, Broxy, Jacques, Surgeon Major Wrafter..... 220	Fracture of Patella. 236
Newboldia Lacels. Eastman..... 213	Gnat and Sand-fly. 221	Treatment. Barker..... 236
	Horse-fly 221	Fania, Short, Krim 236
	Diablito Colorado. G. A. Stockwell..... 222	Hernia 237
	Chigo. 222	Etiology. Bishop..... 237
	Vivigagua. G. Archie Stockwell..... 222	Treatment. 237
	Ticks 223	Taxis. Benncke..... 237
	Spiders. G. Archie Stockwell, Da- vidson, Waring, Webster, Taylor, ' Charles Forbes..... 223	Radical Operation. Deaver..... 237
		Ivy Poisoning. Frank..... 238
		Transmission 238
		Treatment. 238
		Orchiform. Kallenberger..... 238
		Pneumonia 238
		Diagnosis. Osler..... 238
		Yellow Fever 239
		Pathology. Klebs..... 239
		MONOGRAPHS RECEIVED 239
		EDITORIAL STAFF 240

Introductory Notice.

IN our previous issue we published a series of articles bearing upon subjects of particular interest to medical officers of the army, navy, and Marine-Hospital Service who may be sent to the front, namely: "Malaria and the Cuban Campaign," "Substitutes for the Cinchona Salts in the Treatment of Malarial Diseases," "Insolation," and "Scalds and Burns." This plan having met with considerable

appreciation, the present number contains three more such articles, namely: "Tropical Dysentery," "Tropical Diarrhœa," and "Venomous Bites and Stings"—all subjects to which our text-books give very meagre attention.

Tropical Dysentery.

Etiology.—Although several varieties of dysentery are recognized, it is thought that the endemic, or tropical, form is due to the *amœba coli* of Lösch. Kartulis found the parasite in 500 cases of dysentery and in all the cases of liver-abscess examined. That amœbic dysentery is a distinct type of the affection, and therefore not to be confounded with other varieties, has been emphasized by Councilman. Other authors have denied the *amœba* a preponderating importance in the etiology of any form of the disease. That it is only partly responsible seems confirmed by the investigations of Grasser¹ in 153 cases of true dysentery, and in which the *bacillus coli* and *bacillus pyocyaneus* seemed to play a more important rôle. The *amœba coli* was present in nearly half of the acute cases and in 13 out of 34 chronic cases, but there was no relation between the numbers present and the severity of the case. In the stools of perfectly-healthy individuals amœbæ were found in considerable numbers in 20 per cent. Ulceration, produced in the colon of a cat by injecting into it dysenteric fæces, was also produced by injecting sterile vegetable *débris*. This sufficiently indicates that the question is by no means settled.

Although the manifestations of tropical dysentery—diarrhœa characterized by periods of intermission and violent exacerbations, bloody stools, tendency to chronicity and to the formation of liver-abscess—resemble but slightly, if at all, those of malaria, the geographical dis-

tribution of both diseases is interesting, especially when it is recalled that both show a parasitic organism as an important etiological factor. Our Associate Editor, Dr. Simon Flexner, in an article soon to be published in SAJOUS'S ANNUAL AND ANALYTICAL CYCLOPÆDIA OF PRACTICAL MEDICINE (vol. ii), thus defines the marked analogy existing between the two diseases:—

"The present geographical distribution of dysenteric and diarrhœal diseases is compared by Hirsch with that of the malarial diseases, with which, in respect to the manner of their endemic prevalence, the frequency of their epidemic outbreaks, and the varying severity of their type they are in correspondence. Like the malarial diseases, they reach the maximum of diffusion and of intensity, and more especially their greatest severity as an endemic, in equatorial latitudes; in subtropical countries there begins to be noticed a decrease in the extent and seriousness of their endemic and epidemic incidence; while in still higher latitudes they almost disappear as endemic disease and show themselves merely now and then in epidemics over an area at one time larger and another time small. In one point they differ from malarial diseases, namely: that they attain to higher latitudes of the cold zone, appearing as epidemics in regions that are quite free from malaria. . . . The endemic form of dysentery

¹ Archives de Méd. Expér., Mar., '95.

has always existed in Africa and India, but the place of its natural home is not known. Its present distribution includes Africa in its entire extent, except for a few localities. Both natives and Europeans are affected. In South Africa it prevails severely in Bechuanaland, Natal, and Transvaal. In the north it appears in Egypt, especially along the coast and the Nile delta. In Asia it prevails to a great extent along the Arabian coast of the Red Sea as well as of the Gulf of Aden and the Persian Gulf. It exists in Syria, Asia Minor, and extends into Mesopotamia and Persia. Endemic dysentery is widely disseminated in India and the Indian Archipelago and exists in China. In Japan it assumes a milder form, while the epidemic variety is very destructive. The disease prevails in the tropical and subtropical parts of South America, but it fails to reach the wide diffusion which it presents in Africa and India. In Guiana it is found in the mountainous regions and in the tropical parts of Brazil in a severer form. In Valparaiso and La Serena in Chile the disease has a home. Foci appear in Paraguay and in the tropical provinces of Argentine Republic. In Peru it occurs along the marshy districts of the Amazon and in some of the mountainous regions, being endemic in the city of Cero de Pasci at an elevation of 13,000 feet. Venezuela does not escape; in Uruguay it is almost unknown. In Central America the disease prevails in Panama, Costa Rica, Nicaragua, Salvador, Honduras, and Guatemala. It is diffused over Mexico and appears at elevations of 6000 feet. *It assumes the severest forms in the West Indies, especially in Cuba and Hayti,*² and prevails to a greater or less extent in Guadeloupe, Martinique, and Barbadoes. In Europe endemic dysentery occurs over limited

areas only and is present in the more southerly placed countries. Thus it is known in Greece, but is endemic in the Ionian islands and the Cyclades. In Turkey it is common, in Bulgaria and Roumania, along the Donau, also, while the southern provinces of Italy and Sicily are the most severely affected regions in Europe. France, Switzerland, Belgium, the Netherlands, and Great Britain are free from endemic dysentery. In Germany there are no definite foci of occurrence, but a number of cases of the disease have been observed at Weimar and Kiel. The same facts are true of Austria, which, in general, has escaped, although cases have been reported from Prague, Graz, and Vienna. . . . *Various telluric conditions have, from time to time, been supposed to influence the prevalence of dysentery.*³ . . . It is a well-known fact, and one borne out by the best statistics, that both the epidemic and the endemic forms prevail especially during the hot seasons. Great diurnal variations of temperature—warm days and cold nights—have been supposed to predispose to the development of the disease; but in Egypt the facts observed are in direct opposition to this view. The degree of atmospheric moisture seems without influence: Hirsch states that, of 126 epidemics of dysentery, 65 occurred during moist weather and 61 during continued drought. The elevation and configuration of the surface seems also without particular significance, although *low-lying and marshy localities are more subject to visitations than high and dry ones.*⁴

Prophylaxis.—In thus laying stress upon the resemblance as regards certain etiological features of tropical dysentery to tropical malarial fevers, our aim

2, 3, and 4 The italics are ours.

is not to claim that these affections should be considered as the results of one primary pathogenic factor,—a view which for the present, at least, could easily be controverted,—but to point out that some means of prevention must be attempted for the purpose of rigidly counteracting the development of a disease which, according to Osler, “destroys more lives in the tropics than cholera, and has been more fatal to armies than powder and shot.”

That the quality of drinking-water bears an important influence upon the production of the disease is emphasized by further quotation of Dr. Flexner's paper. “There is good reason to believe that the dissemination of the virus of dysentery takes place, in large part, through the water. And although the same conclusive evidence of water-infection has not been brought for this disease as has been brought for cholera, yet there are many convincing observations which bear out this belief. Numerous outbreaks, both of the endemic and epidemic varieties, among troops and inhabitants of towns, have been traced directly to contaminated drinking-water, and the replacement of the polluted by a wholesome supply has been quickly followed by a cessation in the spread of the disease. Observations which indicated a more contagious character, a transmission from person to person, are not wanting. But whether, in these instances, the virus may not have been carried by water, wash-linen, or food, is not certainly known. . . . The hygienic rules which are observed in the prevention of other infectious diseases and especially of cholera have been employed with excellent effect in controlling epidemics of dysentery. The employment of filtered and boiled water has reduced the number of cases or the spread of the

disease in the tropics. The same principles are applicable to the treatment of articles of food, vegetables, fruit, etc., which come into contact with water. Other prophylactic measures consist in the use of suitable clothing, which obviates the injurious influence of rapid changes in temperature and humidity of the air, and the proper dispositions of the dejecta from the sick.”

That the selection of a proper site for camping is of marked importance is shown by the reports of army-surgeons upon various epidemics which occurred in France, especially since the great colonial development of that country has made it necessary to send troops to regions such as Cochin China, where tropical dysentery is constantly met with. An epidemic which attacked the garrison of Poitiers in 1892 was found by Dr. Prieur,⁵ the surgeon in charge, to be due to local unhygienic conditions. The soil was most at fault, having been impregnated by fæcal matter; the water he considered as certainly impure. A number of instances proved the contagiousness of the affection, either direct or indirect; the latter through the fæcal matter drying and being spread about in the form of dust.

In an epidemic at Toulon, reported by Bertrand,⁶ there were 212 cases, several of which were in convalescents from tropical dysentery. The conditions which accompanied this outbreak were a high temperature in the last of July and August, 91.4° F., and even 95° F., and lower temperature in September and October, during which months the number of cases declined. The soil was found to contain various micro-organ-

⁵ Jour. Cut. and Genito-Urin. Dis., Mar., '94.

⁶ Archives de Méd. Navale, May to Nov., '88.

isms. Among the distinct causative features were exposure to the foul air of a sewer conveying fæcal matter and found to contain micrococci and bacilli; chilling of the patient, in 37 cases; excessive fatigue in others. The staphylococcus pyogenes albus or aureus were found to be constant elements in the stools of severe cases. Experiments with the cultured germ failed to produce any effect when introduced into the cæcum of a rabbit or when swallowed by a dog.

An epidemic reported by Archintre,⁷ which occurred at Lunéville in July and August, 1889, had been preceded by excessive heat for two months, with sudden lowering of the temperature just before the outbreak. The main features were: exposure of the men to great heat during the manœuvres. The drinking-water had been obtained from the river, from wells, and from a spring, and was found to contain numerous bacteria. The soil in the immediate neighborhood of the barracks had been manured with dried fæcal matter; in the months preceding the epidemic excavations had been made for the construction of a new building, and it was in the barracks nearest this excavation that the first case occurred. In proof of contagion the following facts are noted: In seventeen days 25 soldiers were ill in one building, while 6 only were attacked in an adjoining building; during the sixteen days following, the cases were scattered in the two buildings, the larger number being in the one last infected. Proximity to the source of infection (the excavations) may account for this mode of development.

The influence of another factor, bad food, was illustrated by an epidemic of dysentery which occurred among 120 Polynesian emigrants on a voyage to the Fiji islands and continued after the ves-

sel had reached quarantine. The attending surgeon, Dr. Daniel,⁸ traced it to the consumption of fish, which was in a state of decomposition from the intense heat of the weather. Stomatitis with ulcers was a common complication. The mortality was unusually large: 48 per cent.

From the above, the conclusion can be reached that the soil becomes contaminated by the alvine discharges of dysenteric patients, and that, in addition to the prophylactic measures already outlined, a camp should not be located near a spot where cases of dysentery are known to have existed. Again, strict attention should be paid to the quality of the food.

Treatment.—By far the most important remedial agents employed in this disease are ipecacuanha and magnesium sulphate.

Ipecac.—In dysentery ipecac was first employed about 1650 by Piso,⁹ who brought it from South America. He gave it in drachm-doses and in the form of an infusion. But it was not until Helvetius proposed it to the physician of Louis XIV, who employed it successfully in the case of the Dauphin, then dangerously ill with dysentery, that its virtues became generally acknowledged, and the drug therefore brought into general use. Marais,¹⁰ and soon afterward Sloane,¹¹ Heister, Vater, and others,¹² further demonstrated its good effects.

Since that date it has been employed by the highest authorities, and during the present half-century, such Anglo-Indian practitioners as Annesley, Twi-

⁷ Archives de Méd. et de Pharm. Militaires, Aug., '90.

⁸ London Pract., Nov., '90.

⁹ De Med. Braz., lib. ii.

¹⁰ Ergo Dysent. Affect. Radix Brazilien.

¹¹ Philosoph. Trans., No. 238.

¹² Copland's Dic. Prac. Med., vol. i.

ning, Ainslie, Geddes, Mortimer, Ballingall, Playfair, Balmair, and Ferguson¹³ bear testimony as to its value and efficacy in this disease. Waring¹⁴ personally adds that his own experience in India and Burmah fully bear out the eulogiums which have been passed upon it; and, further, that when given in doses sufficient to establish and keep up a gentle moisture on the skin, together with a slight degree of nausea, there can be but one opinion regarding it, viz.: that its operation is most beneficial. He, however, has never observed any advantage from inducing vomiting by its means in this disease; on the contrary, the greatest benefit is had when a slight degree of nausea is kept up without producing the more powerful effect. Twining¹⁵ trusted solely to ipecac in dysentery, giving it in 6-grain doses (combined with gentian to obviate the taste) two or three times daily, though he usually preceded by venesection and a full dose of compound jalap powder (jalap, 5; cream of tartar, 10; ginger, 1 pint). Waring¹⁶ remarks that Annesley's formula is very serviceable, and one very generally employed by Anglo-Indian practitioners, viz.: ipecac, 1 to 2 grains; opium, $\frac{1}{4}$ grain; blue mass, 2 to 3 grains; given every four or five hours; and, when the acute stage had subsided, the blue mass was generally replaced by nitrate of silver in doses that never exceeded $1\frac{1}{2}$ grains daily. He adds that there is no form or stage of the disease in which ipecac—whether alone, added to opium, or combined with other remedies—is not beneficial, and the beneficent operation is doubtless due to its power of diminishing morbid arterial action and determining to the skin. Aitken¹⁷ holds ipecac to be more effectual in acute than chronic dysentery, but makes it a rule to keep the patient in bed and

inhibit all fluids, for at least three hours after each dose. Niemeyer¹⁸ can conceive of no way of giving ipecac except as an emetic, and would restrict it to cases where the stomach is filled with undigested substances. Ward¹⁹ states that ample testimony has been borne as to the value of this drug. Webster,²⁰ an eclectic authority, declares that it will cure dysentery unaided by anything except a favorable regimen, though it is not a rapidly-acting remedy. In malarial dysentery, says Fothergill,²¹ quinine must be combined with the ipecac treatment. Pereira,²² who thinks that the name "antidysenteric root," sometimes applied to ipecac is most appropriate, thinks its value rests in its tendency to inhibit intestinal peristaltic action of the intestines. Thompson,²³ of the Seaman's Hospital, Greenwich, after trial of many remedies, finds all inferior to ipecac, which he administers in 3- to 5-grain doses every three hours, keeping the patient rigidly supine in bed, and endeavoring, as far as possible, to maintain an equable temperature of about 62; all alcoholic or fermented beverages are strictly forbidden. Pringle²⁴ thought the best action was when the drug acted as a catharto-emetic, and this was likewise the view of Cleghorn.²⁵ Freind²⁶ mentions "that remarkable efficacy in

¹³ Waring's *Prac. Therap.*

¹⁴ *Ibid.*

¹⁵ *Clin. Illus. Dis. of Bengal.*

¹⁶ *Op. cit.*

¹⁷ *Sci. and Prac. of Med.*

¹⁸ *Text-book of Prac. Med.*

¹⁹ *Med. Times and Gaz.*, Feb. 22, '73.

²⁰ *Dynam. Therap.*

²¹ *Hand-book of Treat.*

²² *Mat. Med. and Therap.*, vol. ii.

²³ *Brit. Med. Jour.*, Jan., '76.

²⁴ *Diseases of the Army.*

²⁵ *Diseases of Minarca.*

²⁶ *On Fevers.*

dysentery disorders which ipecacuanha challenges to itself." Cambay²⁷ values it chiefly after depletive measures have been employed. Stillé²⁸ thinks highly of ipecac, but feels assured every form of dysentery is not amenable thereto; nor is the disease benefited by every form in which the drug is administered; it is not, therefore, the dysentery panacea some enthusiasts would make it out to be. No agent appears to exert so good an effect, says Tanner,²⁹ for it seldom in this disease, even when given in large doses, produces nausea and vomiting, while its beneficial action upon the skin, its increase of the mucous secretion, and tendency to restore the deranged capillary circulation of the liver and intestines to normal must not be lost sight of. Goss,³⁰ too, speaks highly of ipecac in small doses as an active tonic to the mucous membrane of the intestinal tract, but in epidemic dysentery he would give it in milk in as large doses as the stomach will tolerate, every two hours. In acute dysentery, Farquharson³¹ states that ipecac is now regarded as a never-failing specific, and adds that toleration of the drug is speedily established even if the first dose is rejected. Roth,³² like Niemeyer and most Germans, has no good word for the drug, but ascribes all the benefit accruing during its use to some conjoined drug. Woodhull³³ brings forward very strong evidence of its value, not alone in dysentery, but in choleraic diarrhœa. H. C. Wood³⁴ considers that its best effects are seen in bilious and malignant dysentery, such as obtain in tropical climates, and that it is less available in the sthenic inflammatory form. Surgeon Major Harris³⁵ and others have treated dysentery with ipecac that had been deprived of its emetine with excellent results; but, *per contra*, Surgeon Captain Walsh³⁶ contends that

the real value of the remedy resides in the alkaloid, which, however, he employed in connection with the deutiodide of mercury: manifestly an unfair test. Kanthack and Caddy³⁷ both uphold Harris and colleagues, and note that de-emetinized ipecac causes neither nausea nor depression.

Dosage plays a considerable part in the application of the drug with many practitioners. Whitla,³⁸ while he believes ipecac to be a "specific" in dysentery, insists that it should be given in 1- to 3-scruple doses, because the stomach seldom rejects these doses; absolute rest is enjoined and liquids are but sparingly allowed. This is in accord with the opinion of Docker,³⁹ with whom large dosage was not original, however, though he again rendered such popular. The method was extensively tried in the Madras Presidency, according to Cornish,⁴⁰ and of 53 cases thus treated by him but 1 died: to enable the stomach to bear these doses, both he and Docker⁴¹ preceded with $\frac{1}{2}$ -drachm doses of laudanum and followed with sinapisms to the stomach. Balmain, quoted by Zimmermann,⁴² who had been in the habit of treating the malady with small doses, suddenly changed his views when he

²⁷ De la Dysenterie.

²⁸ Mat. Med. and Therap.

²⁹ Prac. Med.

³⁰ Mat. Med., Pharm., and Spec. Therap.

³¹ Therap. and Mat. Med.

³² Modern Mat. Med.

³³ Atlanta Med. and Surg. Jour., vol. of '55.

³⁴ Prin. and Prac. of Therap.

³⁵ The Lancet, vol. ii, '90.

³⁶ Ind. Med. Gaz., '91.

³⁷ The Pract., '93.

³⁸ Pharm., Mat. Med., and Therap.

³⁹ Lancet, '58.

⁴⁰ Madras Med. Jour., Jan., '61.

⁴¹ Op. cit.

⁴² De la Dysenterie.

found that a neighboring charlatan was employing even as high as 2-drachm doses (along with 40 minims of laudanum), with a greater measure of success than had accrued to his own efforts: practically the same method as that advocated by Playfair, of Calcutta.⁴³ Delioux⁴⁴ used large doses in the form of infusion or decoction, and found that, after the vomiting and nausea caused by the first doses had subsided, complete tolerance was established and the abdominal pains mitigated; also that, though the stools were more numerous the first day, they were less so afterward, and their character speedily modified, for they grew more bilious and consistent, and were even sometimes molded; also the pulse was lessened, surface-temperature lowered, and diaphoresis established. Maclean, of London, and Whitehead, United States Navy,⁴⁵ are both advocates of large doses, which they believe should be administered as early in the disease as possible; and Ward⁴⁶ corroborates this opinion. Hale White⁴⁷ thinks ipecac is a specific for dysentery in large doses (60 to 90 grains) if given singly; also in doses of 20 grains given every four hours. Casvasjee, of Bombay,⁴⁸ is much of the same opinion as regards epidemic or sporadic dysentery; but, where the doses are to be repeated, he gives one-third more of the drug, and likewise employs opium and sinapisms.⁴⁹ Biddle⁵⁰ corroborates both the foregoing authorities, making his largest dose 120 grains, adding that, if no effect is produced in two days' use of the drug, it is best to abandon altogether. Martindale and Westcott,⁵¹ citing various English journals,⁵² call attention to the value of non-emetized ipecac, so-called, in dysentery, but state that it is not generally entirely free from alkaloid; this statement is corroborated by an East-

Indian author,⁵³ who says he prepared some ipecac in this way for some Bombay physicians that proved eminently satisfactory, in that it produced neither nausea nor depression, which perhaps is not so much to be wondered at, considering that he naively remarks: "It was given in 20-grain doses thrice daily, preceded by 30 minims of tincture of opium, with a sinapism to the epigastrium." Murrell⁵⁴ thinks that from 20 to 60 grains should be given at a dose suspended in 2 drachms of syrup of orange and $\frac{1}{2}$ ounce of water; no other fluid of any kind should be allowed to be taken, and the patient should be kept lying down with a chloroform poultice on the abdomen. The dose may be repeated in six or eight hours. Ringer and Sainsbury⁵⁵ declare it is well known that this drug is largely and beneficially employed in dysentery; but in some epidemics it answers admirably, while in others it appears to fail; but large doses are generally required, and they often succeed when small ones fail. Butler,⁵⁶ while admitting that it may be of value in other acute dysenteries, believes its greatest benefit is in that of bilious type; whatever the character of the malady, the drug is the more efficient the earlier

⁴³ Edin. Med. and Surg. Jour., vol. ix.

⁴⁴ Bull. de Thérap., vol. xii.

⁴⁵ Naphey's Med. Therap.

⁴⁶ Med. Times and Gaz., Feb. 22, '73.

⁴⁷ Mat. Med. and Therap.

⁴⁸ Prac. Vade Mec.

⁴⁹ Vide Docker.

⁵⁰ Mat. Med. and Therap.

⁵¹ Ext. Pharm.

⁵² Practitioner, vol. i; Med. Chron., Aug., '93; Pharm. Jour. and Trans., '93.

⁵³ Prescrib. Pharm., '91.

⁵⁴ Manual Mat. Med. and Therap.

⁵⁵ Hand-book Therap.

⁵⁶ Text-book of Mat. Med. and Therap.

it is administered. Pearce,⁵⁷ in the epidemic on the ship *Arabia*, in which there were 56 cases and 4 deaths, treated all sufferers with ipecac: 20 to 30 grains at the first onset, and in one hour 10 to 20 grains; in another hour 10 grains. Hot-water fomentations were kept over the abdomen. Vomiting was rare.

Our Associate Editor, Dr. W. W. Johnston,⁵⁸ states that the fluid extract of ipecacuanha, 30 to 50 drops in 2 or 3 drachms of water, every 6, 12, or 24 hours, combined with tincture of opium if not retained, is an excellent method of administering this specific remedy. The use of ipecacuanha powder which has been deprived of emetine is advocated by Harris.⁵⁹ The ipecacuanhic acid is at first abstracted, but subsequently remixed with the powder after the emetine has been removed. Patients thus escape the nausea and prostration of powdered ipecacuanha.

In Bengal the great faith in ipecacuanha continued unabated. W. J. Buchanan,⁶⁰ with many observers, wrote that castor-oil should be given the night before, and, after the bowels have moved in the early morning, tincture of opium (20 minims), followed in fifteen or twenty minutes by ipecacuanha in a dose of 25 or 30 grains. The patient should lie undisturbed for four or five hours. Should vomiting occur, ipecacuanha to be repeated in half an hour and also if the stool has not much changed for the better within twenty-four hours. Ipecacuanha in pill, in doses of from 3 to 5 grains, he considers as utterly useless. Testevin,⁶¹ in a garrison epidemic, employed ipecacuanha and saline purgatives for chronic cases in which malaria had much to do with the condition. The local treatment consisted in warm creasote enemata, made with milk, prepared as follows:—

R Beech-wood creasote, 15 grains.
Tincture of opium, 10 drops.
Boiled milk, 5 drachms.

The contents of the bottle were poured into a jar containing 7 ounces of boiled water, for one enema. He administered three such enemata in the twenty-four hours, after the rectum had been thoroughly washed out with boric-acid solution containing also salicylic acid.

It will be remembered that, during the rebellion, ipecacuanha did not give the satisfactory results expected. Osler has also been somewhat disappointed with it. T. R. Wigglesworth⁶² tried ipecacuanha several years in Nicaragua, Central America; notwithstanding its vaunted efficacy, no case derived much benefit from it. He found that patients suffering from dysentery could not always retain the large doses recommended in text-books. But one-half ounce doses of a saturated solution of magnesium sulphate and 15 minims of dilute sulphuric acid every two hours, with milk diet, caused all traces of blood to disappear from the stools in twenty-four hours, and there was a complete absence of the distressing nausea which is always present in the treatment by ipecacuanha.

Magnesium Sulphate.—Latterly the idea has gained new ground that measures tending to at the same time deplete the mucous layer of the intestine, and yet inhibit undue peristalsis, are most effective in relieving acute dysentery. Thus has been revived the use of Epsom

⁵⁷ Provincial Med. Jour., Oct. 1, '90.

⁵⁸ Annual of the Univ. Med. Sci., '89.

⁵⁹ Lancet, Aug. 30, '90.

⁶⁰ Practitioner, Dec., '97.

⁶¹ Med. Week., p. 252, '96.

⁶² Brit. Med. Jour., Feb. 26, '98.

salt, which held a high place, in the earlier part of the century, in the armamentarium of European physicians.

Trousseau⁶³ found it very valuable in an epidemic of dysentery that broke out in the neighborhood of Tours in 1826, in which he gave 3 or 4 drachms daily in solution. Giacomini⁶⁴ made use of much larger quantities, even an ounce and more at one dose, with the effect of arresting all the discharges at once. Stillé⁶⁵ dissolves an ounce in a pint of water, of which solution he recommends 2 ounces to be ingested every two hours; he adds that from the very commencement of the operation of the salt the tenesmus and bloody discharges diminished. The sthenic forms of dysentery appear to show the efficacy of the method most clearly. Waring,⁶⁶ who is upheld by most Anglo-Indian physicians, objects to the remedy for use in the tropics, since experience has shown that natives and long-resident Europeans bear the action of the salt badly. Austin Flint, Sr.,⁶⁷ also opposed the drug, his motto being "opium, early and persistently"—the old idea of Clark of "putting the bowels in splints." Webster⁶⁸ thinks the drug will afford quicker and as complete relief as ipecac; but he would administer in conjunction with aconite; he considers a grain given every hour in a tablespoonful of water "a specific." Locke⁶⁹ says that the drug in large doses—*i.e.*, from 60 to 120 grains—asserts itself suddenly after a constipated habit in dysentery, but only 1 to 2 grains when the disease is the outcome of a primary diarrhoeal attack; he combines it with ipecac and aconite. Goss⁷⁰ considers it an excellent remedy in many cases, but it is by no means universal in its applicability. Stevens⁷¹ considers that its principal virtues rest in the fact that it is non-irritating and

does not materially increase peristaltic action, while it is effective in clearing the bowel. Biddle⁷² considers that it is inferior to the Rochelle salt; but when employed, he thinks opium should be conjoined thereto. In the early stages of dysentery, says Nevins,⁷³ before there are any very marked changes in the intestinal mucous membrane, there is scarcely any remedy which can be regarded as of equal value to this; it should be dissolved in a wineglassful of water with a few drops of dilute sulphuric acid, and given every hour until it is evident that complete evacuation of faecal matters has taken place. This view is sustained by all recent writers on the subject. Bahadurji⁷⁴ states that he has reduced the mortality of from 5 to 10 per cent. to practically *nil*, by avoiding all irritants and stimulants, rendering the intestinal canal aseptic by preventing the decomposition of contents, by counteracting acidity of the blood by alkalies and thus quieting the abnormal action of the intestinal glands, and by limiting the diet to arrowroot-milk and the active remedial agents to trinitrate of bismuth, Dover's powder, and soda. The use of half an ounce of sulphate of magnesia or sulphate of sodium followed by 20 drops of Sydenham's tincture of opium as soon as the action of the salt is over is considered as curative by

⁶³ Archiv. Gen., xiv.

⁶⁴ Loc. cit.

⁶⁵ Mat. Med. and Therap., vol. ii.

⁶⁶ Prac. Therap.

⁶⁷ Naphey's Med. Therap.

⁶⁸ Dynam. Therap.

⁶⁹ Mat. Med. and Therap.

⁷⁰ Mat. Med., Pharm., and Spec. Therap.

⁷¹ Manual of Therap.

⁷² Mat. Med. and Therap.

⁷³ Foster's Dic. Prac. Therap., vol. i.

⁷⁴ Brit. Med. Jour., Oct. 24, '91.

Cawasjee.⁷⁵ A saturated solution of magnesium sulphate has been urged by many European observers: to an ounce of saturated solution of magnesium sulphate, 10 drops of dilute sulphuric acid are added; this is given every hour or two until it operates freely and the stools have become feculent, free from blood and mucus, and the pain and tenesmus are relieved. Leahy⁷⁶ treated 95 cases at Hyderabad, India, by this method. The number of days under this treatment before the dysenteric symptoms disappeared was never more than five, and in many cases one or two only. V. G. Thorpe⁷⁷ also found that drachm-doses of a saturated solution of Epsom salts, in combination with 10 minims of dilute sulphuric acid, every hour, are strikingly effective, while large doses of magnesium sulphate with sulphuric acid, at frequent intervals were found very effective by W. Wyatt Smith⁷⁸ who arrived at the following conclusions, after an experience including a large number of cases of acute tropical dysentery: (1) ipecacuanha is useless, if not worse; (2) opium is positively poisonous in these cases; (3) the treatment of dysentery is essentially purgative; (4) magnesium sulphate is practically a specific.

Substitutes.—During a campaign such as the one just entered upon, the likelihood that the supply of any special remedy may become exhausted with remote chances of prompt renewal is very great. As in the case of cinchona salts, therefore, the editor has thought it advisable to add, to the two main remedies employed in dysentery, those that may advantageously be used as substitutes.

Aconite, 1 minim every half-hour for 8 to 10 hours, then 1 minim every hour, is suggested by Boru⁷⁹; an early change in the character of the stools is noted.

He is corroborated by Webster,⁸⁰ Locke,⁸¹ and others.

Acid carbolic is employed by Ame- lung,⁸² the administration of which he begins at once if the stools are already mucous, bloody, and accompanied by great tenesmus; but where the large intestine contains a quantity of hard fecal matter, he first removes this by castor-oil. From two to five days after the beginning of the treatment the stools become quite watery, when he substitutes the carbolic by tannic acid (or some agent containing tannin) and opium. His views are in a measure upheld by Butler,⁸³ Mattison,⁸⁴ and others.

Acid Creasotic.—Occasional recommendations have been made regarding creasote and its derivative, and also the sulphocarbulates, which are to be classed in the same category with carbolic acid.

Acid Salicylic.—The same is equally true of this acid and also of salol. Cum-bali⁸⁵ employed the former in conjunction with opium, and the latter is suggested by Campbell.⁸⁶

Alum, too, has received a measure of attention, and the alum-waters are recommended by Biddle,⁸⁷ and Ringer,⁸⁸ though the consensus of opinion appears to be that this drug is more useful in the chronic than the acute form of dysentery.

⁷⁵ The Practitioner's Vade Mecum, p. 912.

⁷⁶ Lancet, Oct. 4, '90.

⁷⁷ Brit. Med. Jour., Feb. 26, '98.

⁷⁸ Brit. Med. Jour., Jan. 29, '98.

⁷⁹ Ind. Med. Gaz., Mar., '88.

⁸⁰ Dynam. Therap.

⁸¹ Mat. Med. and Therap.

⁸² Berl. klin. Woch., Nov. 11, '73.

⁸³ Text-book of Mat. Med.

⁸⁴ Med. and Surg. Rep., Feb. 1, '73.

⁸⁵ Inter. klin. Rundschau, Apr. 20, '90.

⁸⁶ Texas Cour. Rec., Mar., '88.

⁸⁷ Mat. Med. and Therap.

⁸⁸ Hand-book of Therap.

Arsenic.—When acute dysentery has persisted for several weeks, perhaps assumed a semichronic form, and where the vitality of the mucous membrane has become impaired, it excels, says Webster,⁸⁹ the more popular ipecac and other vegetable drugs; but it requires to be employed with both judgment and caution. Ringer and Sainsbury,⁹⁰ however, believe it is more applicable to diarrhœa than to acute dysenteries.

Antipyrine.—Ardin-Delteil⁹¹ employed this drug by enema, in the proportion of 150 grains to the pint of water, with the result that suffering was greatly alleviated; but he seems not to have derived any direct curative action therefrom.

Bismuth has ever been a remedy of repute, the subcarbonate, phosphate, nitrate, and subgallate being employed, their value, respectively, being in the order named. As the action of these salts is self-evident, and they are palliative rather than remedial, they may be passed over without citation of value or use. The doses sometimes recommended are large: 30 to 60 grains or 12 to 15 drachms during 24 hours.

Camphor was formerly in general use, but it seems less efficacious than in the diarrhœal fluxes, and has fallen into disrepute. Biddle⁹² insists that it is useful only in the initial stage.

Cinnamon.—Powdered cinnamon mixed with water to make a ball, taken morning and evening, is a very old and effective Persian remedy, according to Avetoom,⁹³ who derived great satisfaction from it in thirty cases. One to six doses are required.

Colocynth.—This drug seems to enjoy a full measure of confidence. Webster⁹⁴ says that it is especially indicated in minute doses, often repeated, when the disease is attended by intense pain or there

is much blood in the evacuations. Goss⁹⁵ says that, if attended with colic-like pains, 2 minims of tincture of colocynth every two hours will afford relief; but if the malady is attended by rawness, heat, and soreness of the rectum, like doses of tincture of aloes are more effective. Locke⁹⁶ declares that though serviceable in some cases, it is not applicable to all, and if there is any fever it is more effective when combined with aconite.

Creolin in 1-per-cent. solution as a rectal injection is suggested by Johnston.⁹⁷

Ergot.—Gross⁹⁸ and many followers employ this drug by enema to the extent of 12 to 15 grains (an equal amount of fluid extract) in some bland fluid, or 6 grains (6 minims of the fluid extract) by the stomach if there is blood in the stool.

Garlic is a suggestion of Pilloy,⁹⁹ and prepared as follows he deems it an absolute specific: A dessertspoonful of peeled clove is boiled in a wineglassful of cows' milk and made into a jelly, which should be sweetened with a little sugar, and administered to adult patients every two hours.

Iodine is another old remedy of repute though little used of late years, and better suited to chronic than acute dysentery; it is chiefly employed by rectal injection. In the Dutch East Indies iodoform is employed in place of iodine, and

⁸⁹ *Dynam. Therap.*

⁹⁰ *Hand-book of Therap.*

⁹¹ *Bull. Gén. de Thérap.*, Jan. 30, '98.

⁹² *Mat. Med. and Therap.*

⁹³ *Lancet*, Mar. 2, '95.

⁹⁴ *Op. cit.*

⁹⁵ *Mat. Med., Pharm., and Spec. Therap.*

⁹⁶ *Mat. Med. and Therap.*

⁹⁷ *Treatment*, vol. iv, '97.

⁹⁸ *London Pract.*, Nov., '68.

⁹⁹ *Ind. Med. Rec.*, Sept., '96.

is credited with better results than the latter. Kotschorowsky¹⁰⁰ treated upward of 100 cases with iodine starch, to which was added a few drops of tincture of iodine, chloroform, and oil of cinnamon; he also gave the latter and oil of fennel by the mouth.

Mercuric bichloride, 1 to 1000, of which 6 ounces is used for injection, is recommended by Lemoine,¹⁰¹ but he does not allow the fluid to be retained more than 10 minutes; cases were cured in from 1 to 3 days.

Mercurous Chloride. — Calomel has always retained a full measure of confidence among many of the older practitioners of temperate climes, whose opinions are voiced by Sir Ronald Marlin,¹⁰² but it is generally employed in conjunction with other measures.

Mudar (*Calotropis gigantea*) is an excellent substitute for ipecac, according to Durant,¹⁰³ if prescribed in the same manner.

Monsoni Avata. — Maberly¹⁰⁴ considers this South-African plant most efficacious prescribed in 2- to 4-drachm doses of the tincture (5 ounces of drug to 32 of rectified spirit) every four hours.

Naregamia Alata. — Goanese ipecac, employed in the same way as true ipecac, is highly spoken of by Bictre, of the Monegar Choultry Hospital, Madras,¹⁰⁵ and by Schoengut.¹⁰⁶

Newbouldia laevis is another new candidate for favor, and is lauded by Eastman.¹⁰⁷

Naphthol Compounds. — Clark,¹⁰⁸ after treating 137 cases of dysentery during an epidemic of the malady in Alquizar, Cuba, says that the mortality among those treated by ipecac, calomel, opium, and other classical drugs, amounted to 9 per cent., but, among those treated by benzonaphthol, the death-ratio only equaled 2 per cent.; he

gave an average of 45 grains daily to adults, and but little less to children.

Kartulis¹⁰⁹ employs naphthalin, giving preference to the following:—

℞ Naphthalin, 15 grains.

Calomel, 8 grains.

Bergamot essence, 3 minims.

Sugar, a sufficient quantity.

The whole to be divided into ten doses of which he gave one every hour. Hinterhof¹¹⁰ chronicled equally-satisfactory results from the naphthalin employed by enema: 8 grains to 3 ounces of water. Glinsky afforded prompt relief to patients, also, by employing as a rectal injection an oleaginous mixture in which the naphthalin was suspended. Whitla¹¹¹ speaks of its use by Rossbach, who, while expressing himself in the highest terms regarding its use, adds that it is so difficult of solution that it can be administered in doses fatal to all minute organisms in the *prima viæ* without doing the patient harm, as it is not absorbed; but Whitla expresses the opinion that the drug has "lost ground." Unfortunately great confusion exists in the nomenclature of the naphthols, and the one mentioned by an author is not always the one intended or employed; thus is had "naphthalene," "naphthalin," "naphtalene," "naphtalen," all meaning "naphthaline." Then there is "benzoyl-naphthol" or "benzo-

¹⁰⁰ La Sem. Méd., No. 62, '96.

¹⁰¹ Bull. Gén. de Thérap., Jan. 20, '90.

¹⁰² Epitome of Therap.

¹⁰³ Ind. Med. Gazette, Jan., '67.

¹⁰⁴ Lancet, Feb. 13, '97.

¹⁰⁵ Pharm. of Newer Mat. Med.

¹⁰⁶ Quar. Therap. Rev., No. 30, '90.

¹⁰⁷ Prov. Med. Jour., '94.

¹⁰⁸ Lancet, July 20, '95.

¹⁰⁹ N. Y. Med. Jour., Oct. 17, '96.

¹¹⁰ Russ. Med., No. 21, '88.

¹¹¹ Pharm., Mat. Med., and Therap.

naphthol," by many supposed to be identical to isonaphthol (betanaphthol), but instead is only a derivative. Naphthalol is quite a different body, one that has never been employed in dysentery. The first two are the drugs employed and cited.

Narcotine (Anarcotine).—This opium alkaloid, contrary to the general view, is entirely devoid of narcotic power, but, on the contrary, is a tonic, diaphoretic, febrifuge, and antiperiodic of little (if any) less value than quinine. In the dysentery that supervenes during convalescence from, or as a sequel of, tropical malarial fevers, Waring¹¹² holds it superior to quinine, as it does not aggravate the local inflammation, but, on the contrary, tends to relieve pain and tenesmus. O'Shaughnessy¹¹³ adduces the testimony of many Anglo-Bengalese medical officers in its favor.

Quinine.—When the dysentery is of asthenic and malignant variety, and also in advanced stages of the malady when the vital powers and nervous energy are much exhausted, Waring¹¹⁴ believes that quinine combined with opium is apt to prove very serviceable. Clark, Douglass, Huxam, and others¹¹⁵ employed the red cinchona-bark. Butler¹¹⁶ holds quinine of value when the disease is the direct outcome of paludal miasm. Osler¹¹⁷ suggests warm enemata, 1 to 5000, and declares that they are of great benefit.

Silver Nitrate.—Stevens¹¹⁸ suggests silver nitrate, $\frac{1}{2}$ grain to 1 ounce of thin starch-water as a rectal injection, and he is upheld by Roth,¹¹⁹ Hale White,¹²⁰ Ringer,¹²¹ and Butler.¹²² Fothergill¹²³ and Sir G. Baker¹²⁴ favor its use by the mouth also in minute doses, conjoined in pill form with either ipecac, rhubarb, or mercurial chalk, according to the circumstances attending the individual case. Gallay¹²⁵ gives elaborate directions as to the rectal use

of the salt. He places the patient on the right side with the left thigh flexed and raised, and then first gives an enema of hot water, and, after it has acted, employs the nitrate-of-silver solution, to which 20 or 30 minims of laudanum are added. He is directed to retain it two or three minutes, but five is generally the maximum period. Sometimes it is evacuated in two movements, the second occurring after an interval of two or three hours. The only immediate or unpleasant consequence is a sensation of stricture in the lower part of the rectum, which, however, does not persist for more than 15 or 20 minutes. Often the first injection affords complete relief; but, if not, it is sure to supervene after the third or fourth operation. To secure a permanent cure, however, it is necessary to persist in the treatment some time. It would seem as if this procedure were more applicable to chronic than acute dysentery. West¹²⁶ employs silver nitrate in conjunction with quinine and creolin. Dayabhai¹²⁷ more nearly follows Gallay, employing a solution of the strength of 2 grains to the ounce, 5 ounces being the measure of a single enema.

Labarraque's Solution.—Morse¹²⁸ met

¹¹² *Prac. Therap.*

¹¹³ *Bengal Pharm.*

¹¹⁴ *Prac. Therap.*

¹¹⁵ *Loc. cit.*

¹¹⁶ *Mat. Med., Therap., and Pharm.*

¹¹⁷ *Prac. of Med.*

¹¹⁸ *Manual of Therap.*

¹¹⁹ *Mod. Mat. Med.*

¹²⁰ *Mat. Med. and Therap.*

¹²¹ *Hand-book of Therap.*

¹²² *Text-book Mat. Med., Pharm., and Therap.*

¹²³ *Med. Observations and Inquiries.*

¹²⁴ *Trans. Coll. of Phys., vol. ii.*

¹²⁵ *Brit. Med. Jour., Feb. 2, '95.*

¹²⁶ *Med. Rec., Sept. 23, '93.*

¹²⁷ *Ind. Med. Rec., Mar. 16, '93.*

¹²⁸ *Cal. Med. Gaz., Sept., '68.*

with marked success by throwing up into the rectum and colon from 2 to 5 pints of a solution of chlorinated soda, largely diluted—Labarraque's solution—1 to 20 parts of water.

Sodium Sulphate; Sodium and Potassium Tartrate.—The evacuant method of treatment led to the employment also of these two salts by many practitioners. Biddle¹²⁹ recommends the latter, while the former is advocated by Archintre,¹³⁰ who gives from 30 to 50 grains by the mouth, three or four times daily. Both have many followers.

Tannin and Drugs Containing Tannic Acid.—These are very ancient remedies, and are employed simply for their astringency, tannin being the type of all. These are upheld by Farquharson¹³¹; by Biddle,¹³² who suggests its use both by stomach and rectum; and by many others, including Butler,¹³³ who prefers an enema of 10 grains of tannin in a 4-per-cent. solution of boric acid.

Turpentine.—In the advanced form of acute dysentery Copland¹³⁴ and Waring¹³⁵ highly praise turpentine fomentations to the whole abdomen, and allowed each application to remain as long as the patient can bear it. It may also be exhibited internally, according to requirement, if the stools are bloody.

Veratrum Viride.—Ragland¹³⁶ relates a case having from 30 to 40 evacuations in the twenty-four hours in which this drug was employed. The pulse was rapid, small, wiry, about 130 per minute, and the temperature was 103.5°. It was with the view of controlling the too-rapid action of the heart that Norwood's tincture was prescribed, commencing with 3 minims, and increasing 1 drop each dose, which in six hours reduced the pulse some sixty-odd beats; but to his surprise markedly lessened the

number of evacuations, and caused the reappearance of fecal matters therein. Waring¹³⁷ also mentions the use of the drug in acute dysentery, but does not consider it "trustworthy."

Zinc Salts.—Zinc oxide and zinc sulphate are listed as remedies by many authors, but the former is more applicable to true diarrhœas, and the latter to dysentery of chronic form, except where it may be desired for its tonic effect.

Intravenous Injection.—Bosc and Vedel¹³⁸ employed in 4 cases intravenous injections of sodium chloride, 7 per 1000 being the maximum strength. By this means 3 of the 4 apparently hopeless cases were saved. From 12 to 24 drachms per minute of the solution is the extreme application of the method.

Surgical Measures.—On the theory that contraction of the sphincters prevents complete evacuation of the contents of the rectum, thereby inducing tormina and tenesmus, Patterson¹³⁹ resorted to dilation, the same as for anal fistula, with success. Stephan,¹⁴⁰ after all other measures failed, performed cœliotomy and established an artificial anus. Improvement soon set in, and as the case recovered the artificial anus gradually closed.

¹²⁹ Mat. Med. and Therap.

¹³⁰ Archives de Méd. et de Pharm. Milit., Aug., '90.

¹³¹ Therap. and Mat. Med.

¹³² Mat. Med. and Therap.

¹³³ Text-book of Mat. Med., Pharm., and Therap.

¹³⁴ Dic. of Prac. Med., vol. i.

¹³⁵ Prac. Therap.

¹³⁶ Med. Rec., July 15, '70.

¹³⁷ Prac. Therap.

¹³⁸ Le Presse Méd., '96.

¹³⁹ Atlan. Med. and Surg. Jour., Mar., '96.

¹⁴⁰ Berliner klin. Woch., No. 1, '96.

Tropical Diarrhœa.

Many are under the impression that the diarrhœas of the tropics are specific, but this Parkes,¹⁴¹ who is, perhaps, without a peer in sanitary experience as connected with troops and the tropics, emphatically denies. He insists that there is no evidence that tropical diarrhœas, or "dysenteries" as they are often erroneously termed (see DYSENTERY), are different from those in other parts of the world, except as they may be modified by climatic and meteorological surroundings. He does not include in this category, however, the fluxes that accompany malarial disorders, more particularly remittent and bilious remittents, since these are to be regarded as manifestation of, or sequels to a pathological entity, and not as pathological *per se*.

Etiology.—The chief causes of army-dysentery, or diarrhœa, in the tropics, according to Wood,¹⁴² are: impure water, impure air, improper food, exposure to cold and wet, and the obscure etiological factor recognized as malaria, to which Fothergill¹⁴³ very properly adds: unusual mental perturbation or agitation, excessive fatigue,—which is but another form of disturbance of nerve-function,—and excessive heat, this last being compensatory, as it were, to sun-stroke. Putting aside the two first-named causes, which are now well established, consideration may be had of the others. Parkes declares that any excess in quantity, and many alterations in quality of food,—especially commencing decomposition in the proteids, and perhaps the rancidity of the fatty substances,—may produce diarrhœa; that it, uncared for, in the tropics is apt to be merged into dysen-

tery; much of the tropical diarrhœa, he points out, is *scorbutic*! As regards exposure to wet, he cites the evidence afforded by such army authorities as Annesly, Twining, Griesinger, Mouat, and Hirsch. Speaking of chill, which Fothergill also considers a potent cause of intestinal fluxes, it is pointed out that in most tropical countries chilling of the abdomen is regarded as particularly dangerous, and shawls and waist-bands (kamerband) are usually worn, while the great season of diarrhœas in the temperate zones is the heated term, when the abdomen has the least protection. [Hence the utility of the flannel bandages with which our troops are being provided.]

Many cases of tropical diarrhœa, doubtless, arise in consequence of congestion or obstruction to the portal circulation. Fothergill points out that it may arise from the obstruction due to cirrhosis of the liver with consequent ascites, or may take origin in general venous fullness the result of obstruction to the blood-flow through the right heart.

Sir Joseph Fayrer upholds Fothergill, and, writing to the latter, declares that "fatty, sugary foods and alcoholic drinks are responsible for most of the intestinal and hepatic troubles in hot malarious climates like India, the West Indies, the coast of Africa," etc. Persisted in, these, besides engorgements of the portal circulation, induce swelling of liver, and fatty or amyloid degeneration,—the

¹⁴¹ Man. of Prac. Hyg.

¹⁴² Health of Europ. Soldiers in India.

¹⁴³ Hand-book of Treat.

"gone" livers of planters and nabobs, and who suffer from the form of diarrhoea that is distinctively known as tropical, and which oftentimes, by its intractability, is the first evidence of cirrhosis. For a century this "tropical diarrhoea" has been admitted to be the direct outcome of high living—a superabundance of fats, sweets, spiced foods, and free indulgence in wine and spirits.

Treatment.—All authorities admit that the remedial measures must be instituted in consonance with indications, causes, and surroundings. Fayrer insists, first of all, on cutting off all fat or sweet foods and inhibition of beer and alcohol. Fothergill, quoting Prout, calls attention to a very important matter, viz.: that when excessive acidity prevails in the lower portion of the intestinal canal, particularly in the cæcum, the soluble antacids are of little value, owing to the fact that they are neutralized and absorbed before they reach the seat of the affection, hence the insoluble antacids, especially magnesia, will be found more useful. Cajeput-oil is a favorite remedy with him, as being both a diffusible stimulant and soother to mucous membranes. He also points out that, where there is obstruction to the portal circulation, astringents are injurious, and in the tropics may lead to fatality; furthermore, that, when the flux arises from congestion due to insufficiency of the right heart, digitalis and iron often work a seeming miracle.

Lemons and Limes.—Ferguson¹⁴⁴ quotes numerous authorities to sustain his own experience that the juice of either fresh lemons or limes is often an important measure in controlling acute diarrhoea in the tropics; among others a letter from O'Connor, of Trinidad, who lauds the use of the remedy in the form of diarrhoea known as "bische."

which almost merges upon an acute dysentery. Waring¹⁴⁵ says it is a favorite remedy with the Burmese of the Tenasserim provinces, who take it in large quantities, and further expresses the opinion that it merits careful trial.

Ipecac.—Waring¹⁴⁶ also highly praises ipecac, which he has often found very serviceable, sometimes effecting a cure when other remedies have been of no avail; when it fails in small doses, a full dose to produce emesis often proves effectual. He is corroborated by Linnæus,¹⁴⁷ Fothergill,¹⁴⁸ Sir G. Baker,¹⁴⁹ and many others.

Ergot has been successfully employed by many. Wright, Stout,¹⁵⁰ and many others claim excellent results from the use of freshly-powdered ergot in 5-grain doses (5 minims of fluid extract or normal liquid), and in one instance the remedy prevented the supervention of dysentery, which was already manifesting itself.

Aperients.—Clapton¹⁵¹ says ordinary simple diarrhoea scarcely requires any medical interference beyond rest and plain, nutritious, unstimulating foods; but in the presence of an epidemic of diarrhoea, every case, however mild, should be carefully attended to. Inasmuch as the malady in most instances arises from indiscretion of diet, where this can be ascertained, non-saline aperient is indicated.

Chambers¹⁵² also believes in paying first attention to diet; but he also offers

¹⁴⁴ Ed. Med. and Surg. Jour., '87.

¹⁴⁵ Practical Therap.

¹⁴⁶ *Op. cit.*

¹⁴⁷ Amoen. Acad., vol. viii.

¹⁴⁸ Med. Obs. and Inq., vol. vi.

¹⁴⁹ Trans. Coll. Phys., vol. ii.

¹⁵⁰ Edin. Med. and Surg. Jour., '49.

¹⁵¹ Brit. Med. Jour., Sept. 30, '71.

¹⁵² The Indigestions.

the following aphorism: If there are lumps of feculent matter in the stool, and a smell like that of normal excrement, purgatives should be given; but these should be abstained from when there is no normal smell present.

Raw Meat.—Druitt¹⁵³ has had abundant opportunities of proving the efficacy of raw, finely-scraped or pounded meat: beef or mutton. The muscular substance must be rendered fibre- and fat-free, and so prepared as to form a soft, pink pulp, giving no feeling of resistance when squeezed between the fingers. It may be given by itself, or made into a jellied chop by diffusing it through a stiff meat jelly and allowing to cool in a shape.

Zinc Oxide.—Brakenbridge¹⁵⁴ lauds this remedy, which he deems superior to the bismuth salts.

The following pill (after a dose of castor-oil has cleared the intestinal tract) has proved of exceptional value in the hands of the editor:—

R Oxide of zinc,
Camphor, of each, 1 grain.
Opium, $\frac{1}{2}$ grain.

It should be taken every three hours four times, then after each stool.

Castor-oil; Epsom Salt; Opium.—Tongue, Duffin, and Broadbent,¹⁵⁵ all note a preference for castor-oil, or castor-oil and laudanum, though the last named sometimes resorts to sulphate of magnesia with ether, etc., followed by stimulant aromatic tonics; but if the diarrhœa is of two or three days' standing he prefers aromatic sulphuric acid and opium.

Creasote.—Johnson suggests $1\frac{1}{2}$ minims of creasote in combination with 2 grains each of opium and capsicum, with krameria enough to form a pill; two such

pills to be taken every two hours until violent symptoms are relieved.

Other Remedies.—It seems hardly necessary to mention remedies which are well known, and will suggest themselves according to the exigencies of the individual case. Our object has been to point to what have proved of especial value in tropical diarrhœa. The following may also be found available, according to Webster¹⁵⁶ and Goss,¹⁵⁷ both Southern authorities: Aconite; silver nitrate; strychnine arsenite; potassium bichromate; calcium phosphate and sulphate; cistus Canadensis; dioscorea; epilobium; erigeron; eryngium; ferric phosphate; geranium maculatum; hæmatoxylon; arsenic iodide; oris; juglandis; kaki; lactic acid; magnesium phosphate; melilotus; myrica cerifera; cœnotheria biennis; pancreatin; guarana; plantago majalis; polyporus; potassium chlorate and phosphate; pulsatilla; rhus aromatica and rhus glabra; sodium chloride, phosphate, and sulphate; sumbul; triosteum; veratrum album; xanthoxylum.

Other remedies that find more or less definite application are: alkalies; alum; aromatics; ammonia and ammonium salts; arsenous acid; bæli; calumba; camphor; carbolic acid; cascarilla; chamomile; calcium carbonate and chloride; cerium salts; cera alba; charcoal; chloroform spirit, chlorodyne and chloranodyne; chondrus crispus; coca and cocaine; cold affusions, enemas, and packs; colocynth; copper salts; coto and para-coto; elm-bark; euphorbia pillulifera and corallata; guaco;

¹⁵³ Med. Times and Gaz., July 2, '90.

¹⁵⁴ Loc. cit.

¹⁵⁵ Loc. cit.

¹⁵⁶ Dynam. Therap.

¹⁵⁷ Mat. Med., Pharm., and Spec. Therap.

golden seal; iron salts, especially the perntrate; lead salts; leptandrin; lime-water; lythrum salicaria; mercury salts; mineral acids; betanaphthol; nux vomica; pepsin; podophyllin; pomegranate; quassia; rhubarb; rubus villous; salicylic acid and the salicylates; salicin; salol; sappan-wood; tannin and tannates;

taka-diastase; tormentilla; turpentine; wahoo; zinc salts; spinal applications, hot or cold; cold or hot packs; sitz-baths; blisters; emetics.

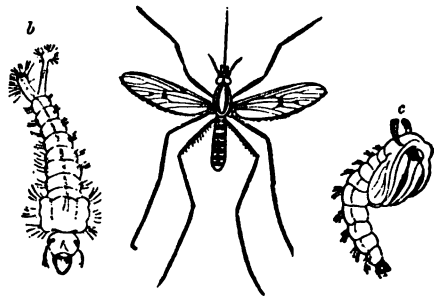
More or less of the foregoing are also available in subacute and chronic diarrhoeas (see DYSENTERY).

Venomous Bites and Stings.

Mosquito.—In previous numbers of the MONTHLY CYCLOPÆDIA (January and May, '98) we have shown the important rôle attributed to the blood-sucking mosquito (*Culex auxifer*) in the causation of malarial fevers. Besides this power of transferring the germ thought to be capable of giving rise to the plasmodium malariae, the mosquito is also a medium for the transfer to human beings of the filaria sanguinis. In the present campaign which will force our troops to regions where the mosquito and malaria are common sojourners, prophylactic means as regards this insect are extremely important, the annoyance caused by the bites being insignificant when compared to the diseases to which they may give rise. The fact that yellow fever has also been included by some observers in the list of affections which the mosquito may convey by his bite adds further emphasis to the necessity of doing everything possible to prevent his attacks—or, rather, her attacks, for the female alone is the offending party.

Prophylaxis.—We, fortunately, have, in carbolic acid, an excellent preventive agent, not only against the mosquito, but also one tending to keep off the numerous other pests—ticks, fleas, lice, horse-flies, etc.—with which the tropical

countries are infested. The use of a strong carbolic-acid soap for washing purposes suffices when insects are not numerous; the stronger the odor of carbolic acid given off by the skin, the better. In malarial regions, however, especially when mosquitoes are numerous,



Larva (b) and pupa (c) of the blood-sucking mosquito.

the protection must be increased in proportion. This can easily be done by dipping the hands, after the ablutions are over, into a bucketful of water containing an ounce of carbolic acid, and passing them, while wet, over the face, neck, and ears—any portion of the body that may be exposed. If the parts thus moistened are not wiped the water will evaporate, leaving a thin film of carbolic acid over the skin, which thoroughly protects it until completely washed off

by the perspiration. A bucketful of such a solution is sufficient for twenty men, and will protect them efficaciously three or four hours during the march. If resorted to before retiring, the protection usually lasts during the sleeping-hours. Of course, the odor of carbolic acid is not pleasant to everyone, but what surgeons have continually to bear in hospitals should not be shirked by soldiers.

When carbolic acid is not available an emulsion of common kerosene or petroleum is an excellent substitute, the fumes of the pure article being fatal to the mosquito. This fact affords an easy way of disposing of those that may be found sitting upon the walls of the interior of the tent and which, owing to the pliability of the canvas, cannot be killed. A few drops of petroleum held in any open receptacle a few inches under the insect causes the latter to drop dead.

When forced to camp close to foul, mosquito-breeding pools, the water of which cannot be used, the mosquitoes infesting it, their larvæ, and nymphæ can easily be overcome by pouring into each sheet of water a quantity ranging from a few ounces to a pint of petroleum. This gradually spreads on the surface and the local supply of insects is, at least, greatly reduced. This plan, recently tried in New Jersey, has been found very effective.

A simpler method is that suggested by the Public Health Journal,¹⁵⁸ which states that the mosquito in all its phases may be killed by contact with the most minute quantity of potassium permanganate. A 1 to 1500 solution distributed in mosquito-haunted marshes or grasses will render the development of the larvæ impossible; while a handful of permanganate will oxidize a ten-acre

swamp, kill its embryo insects, and keep it free from organic matter for thirty days at a cost of 25 cents. A single pinch of permanganate has killed all the germs in a thousand-gallon tank.

As prophylactics against the attacks of insects and other disease-breeding germs, the Zulus and the natives of many tropical countries anoint their bodies with fat. Hence, the probable explanation of the preventive value of an ointment containing $\frac{1}{2}$ drachm to the ounce of betanaphthol,—which also greatly reduces the irritation caused by the bites and stings of any insect. It must be said, however, that the sensation produced by a coating of grease over the face during hot weather is anything but pleasant—at least, for a white man.

Treatment.—For the treatment of mosquito-bites the application of aqua ammoniæ may counteract the infectious principle, but this is doubtful, for it does not penetrate the tissues, as did the insect's bill. At any rate, it reduces the suffering if applied with a little rag and left *in situ* a few moments.

Menthol sometimes affords considerable relief, the crystalline solid or camphoraceous substance being rubbed over the surface.

Neal¹⁵⁹ highly recommends the following mixture for local application:—

R Pulv. ipecacuanha, 3ss.

Spir. vini rectific.,

Ætheris, of each, 3ss.—M.

Ottinger¹⁶⁰ affirms that ammonia is of little benefit, and that the best results are obtained from the application of ichthyol. In numerous bites and stings of flies, gnats, bees, wasps, etc., he found that it quickly and surely caused the

¹⁵⁸ Med. Rec., Apr. 23, '98.

¹⁵⁹ N. Y. Med. Times, '91.

¹⁶⁰ Munch. med. Woch., Dec. 8, '96.

phenomena of inflammation—which he attributes to its vasoconstrictor action—to subside. It is best applied pure, in pretty thick layer, though it may be used in the form of an ointment.

Morris¹⁶¹ also suggests painting the bites or stings with a saturated solution of either camphor or salol in ether; or a mixture of 30 grains each of salicylic and benzoic acids in 7 drachms of colodion, may be tried.

Brocq and Jacquet¹⁶² recommend the following as effective for the bites of fleas, mosquitoes, gnats, sand-flies, mites, etc.:—

1. R Camphorated oil of chamomile,
100 parts.
Liquid styrax, 20 parts.
Peppermint essence, 5 parts.—
M.

Also

2. R Peruvian balsam, 5 parts.
Styrax ointment, 25 parts.
Olive-oil, 20 parts.

Lastly. 3. Naphthol, 20 to 40 parts, in sufficient ether to dissolve it; menthol, 1 to 4 parts; vaselin, 400 parts.

Surgeon Major Wrafter¹⁶³ states that sodium bicarbonate in a little water is often a very effective remedy, or the juice of a plantain-leaf or of a raw onion. Sometimes oil of lobelia proves magical; also dilute carbolic acid. In Australia a poultice of powdered ipecac is largely employed.

When many bites have caused violent local tumefaction and congestion a cold lead-water poultice forms a very soothing application. Lemon-juice is also useful.

Gnat and Sand-fly.—Closely allied to the mosquito, but much more vicious and virulent, is the gnat of the tropics, against which mosquito netting is no barrier.

Even a greater pest is the minute sand-fly, which is more difficult to cope with, and more venomous than either the gnat or mosquito. This, like the two preceding, is most abundant near the water, but unlike the latter it does not haunt marshy districts and damp herbage, but rather sandy and ridgy ground. The remedial and preventive measures

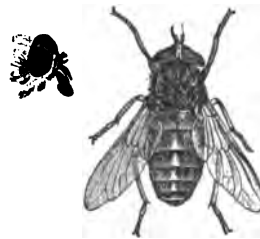


Sand fly.

recommended in the case of mosquitoes are also useful here.

Horse-fly.—It may prove useful to officers and cavalry to know that the solution of 1 ounce of carbolic acid to a bucketful of water, sponged over horses protects them against the onslaught of their most active tormentors.

Indeed, these so-called "horse-flies," or deer-flies, will also attack man, and



Tabanus: horse-fly.

are the torture of all four-footed creatures in the tropics. All are blood-suckers, and often deposit their larvæ along the spine, where the skin is thinnest, of horses, mules, etc.; one species deposits its eggs in the nose of these creatures.

¹⁶¹ The Practitioner, Aug., '96.

¹⁶² Indép. Méd., Oct. 20, '97.

¹⁶³ Ind. Lancet, June 1, '97.

A bite of one of these horse-flies is painful and will induce swelling and inflammation that will last for days; it may even induce blood-poisoning. The carbolic acid is also useful to reduce the swelling and pain of the bites.

Where there are larvæ in the nose of a horse or mule, a douche of a solution of corrosive sublimate, 1 to 3000, or stronger, is usually very effective, and should be followed by insufflations of calomel; the same treatment applies to man when flies of a smaller variety, as they sometimes do, deposit their larvæ in the nasal cavities. In this case, however, the most effective measure consists, when maggots have formed in the nasal cavities, in injecting a 50-per-cent. solution of chloroform. Sometimes it is necessary to inject pure chloroform, the pain being allayed by later injecting carbolized oil or a solution of cocaine.

Diablito Colorado.—Another plague of tropical climes is an exceedingly-minute insect which lives in the grass and on shrubs; and so minute is it that it is necessary to bring the eye close to it in order to detect its presence. It has a variety of local names, notably *diablito colorado*, though the French, because of its bright-scarlet hue, term it *bête rouge*. It abounds during the rainy season, and its bite causes intolerable itching, which, as Schomburg expressed it, "by day drives the perspiration from every pore, and at night makes one's hammock resemble the gridiron on which St. Lawrence was roasted."

The itching is relieved by rubbing the spot with strong lime- or lemon- juice, alcohol, rum, camphor, or a fairly-strong solution of carbolic acid; it must not be scratched on any account, according to G. A. Stockwell, for if the skin is broken or abraded the result is apt to be a most ugly sore, very difficult to heal.

Chigo.—Another insect, one that closely resembles the common flea, and that in Cuba and Porto Rico demands to be specially guarded against, is the *nigua*, chigo, or jigger. It is the female only that is annoying, and she is especially apt to work her way beneath the skin at the ankles, or preferably at some part of the foot, most often between the toe-nail and the flesh, but sometimes between the toes. Having buried herself, an intolerable itching results, at first rather agreeable than otherwise, but after a few hours merging into most violent pain. At the same time a small, white, bladder-like tumor about the size of a pea, with a dark spot in the centre develops under the skin.

The tumor is the rapidly-growing nest, developed from the posterior portion of the body of the chigo, and the black spot is the anterior portion of the little pest. To rid the part of the incumbrance, Mexican guides apply a lighted cigarette to the spot, the heat of which penetrates sufficiently to destroy the insect. But a somewhat more delicate operation is performed by negro women, who are generally very expert. With a fine needle they remove the skin from the little ball or nest precisely as one would peel an orange, and then making pressure with the thumbs succeed in squeezing out the sac of eggs; the cavity is then filled with snuff or tobacco to guard against the possibility of development of any eggs that may accidentally have escaped from the sac and have been left behind. The unacclimated persons and all new-comers are especially subject to the attacks of the chigo. Excruciating, violent inflammation and even gangrene have resulted from neglected chigo-sores.

Vivigagua.—There is likewise a species of ant that lives in considerable

colonies in the West Indies, chiefly in and about the sugar-cane fields, being very destructive to the canes; but it does not hesitate to attack the human who camps on or near its preserves, when it becomes more obnoxious than the ticks or even the *bête rouge*. G. Archie Stockwell states that this insect, the *vivigagua*, bites with exceeding fierceness, producing the impression that one has been pierced by a red-hot needle. Luckily it is by no means generally disturbed, and seldom takes the offensive save in the rainy season; and unfortunately there is no protection to be had from its onslaughts, or those of the ticks and *diablitto colorado*, except carefully burning over the ground before camping, or using a liberal sprinkling of insect-powder, or of poke-root and borax mixed. But a certain amount of immunity may be had against ants and ticks, as well as centipedes, scorpions, spiders, and venomous reptiles by wearing tight, close-woven canvas leggings or high-topped boots.

Ticks.—Blood-sucking ticks are another annoyance of tropical regions. They bury the whole head in the flesh, and distend their bodies with blood ere they are discovered, and any ordinary attempt at removal only detaches the latter, leaving the head behind to create trouble.

The head should be removed with needle or knife, and the wound subsequently dressed antiseptically. The most blood-thirsty form is termed *Gara-pata*. Turpentine applied to the rear end of the insect sometimes causes it to loosen its hold. Again, a drop of chloroform injected with an hypodermic syringe frequently brings about the same result.

Spiders.—Spiders of infinite variety of sizes, color, and habits are numerous

in the tropics. Though the majority are not to be classed as poisonous, their bites seem especially prone to develop the fevers of the region, or to provoke ulcerations that are healed only with the greatest difficulty. The ground and trap-door spiders grow to great size—often the body alone is 2 or 2½ inches in length. They are hairy, most repulsive creatures, living in wells or tubes



The common trap-door spider.

excavated in the soil, with a trap-door atop which is closed when the tenant is at home. The common trap-door spider is generally known as "tarantula" in Jamaica and Cuba, because of its close resemblance (but generally is of smaller size) to the true tarantula, which is also found, but more sparingly. The latter is pictured on the next page. Both inflict wounds when opportunity offers, but these wounds are not of the highly

poisonous and dangerous nature generally imagined. Dr. G. A. Stockwell states that he has suffered from tarantula- and centipede- bites, and from scorpion-stings, and never witnessed any more untoward result than an ephemeral fever, and he would infinitely prefer such to the onslaughts of myriads of mosquitoes, ants, gnats, or the tortures inflicted by the *bête rouge*.

Still, the fact must not be forgotten that individuals weakened by fatigue, malaria, or the use of alcohol beverages, and children do not resist the venom with the same vigor, and that symptoms may be met in them which a strong man would in no way manifest.

Davidson¹⁶⁴ believes that most of the



The tarantula (*Eurypelma Hentzii*).

so-called spider-bites are due to some other insect, and in Southern California are inflicted by the "pirate-bug" (*Rhasahus biguttatus*), which is common in some periods in orchards, and may be found in sheets and about dwellings. He recommends the use of corrosive-sublimate solution, 1 to 500 or 100, and keeping the parts constantly wet with the same.

Waring¹⁶⁵ recommends a liniment made of ordinary ammonia-water, olive-oil, and laudanum, well rubbed over the bitten part, and a few drops of the ammonia-water in a tumbler of water if administered internally. The foregoing, he declares, is usually sufficient for the bites of scorpions, tarantulas, and other spiders, centipedes, and mosquitoes, as

well as other venomous insects. He mentions guaco as a remedy of some repute, but is unable to afford it personal recommendation. Ipecac paste or poultice he fully indorses, however, and remarks that it sometimes proves a perfect specific.

Eclimacea augustifolia is lauded by Webster,¹⁶⁶ also sodium chloride.

It may be said that any of the preparations recommended for mosquito-bites are also useful in spider-bites. In severe cases the local injection of a 5-per-cent. solution of permanganate of potassium may prove advantageous, the patient's strength being simultaneously sustained by means of strychnine and, if need be, stimulants. Strong coffee enjoys great confidence in this particular in all tropical countries.

Taylor, of Denver,¹⁶⁷ treated a woman who showed severe symptoms after the bite of a large tarantula, which she had killed in her bed. The author used injections of $\frac{1}{60}$ or $\frac{1}{90}$ grain of strychnine, according to Mueller's method. The first injection, in addition to the strychnine, contained $\frac{1}{100}$ grain of trinitrin. The result was excellent. Charles Forbes¹⁶⁸ also employed hypodermic injections of strychnine with success in tarantula-bites.

Scorpion.—Scorpions are peculiar to the tropics and subtropics the world over, and equally abundant in the Philippines, Canaries, Porto Rico, and Cuba. They generally hide under stones, fallen tree-trunks, in the roof, cracks in the walls, thatch and dark corners of deserted huts, and obscure parts of inhab-

¹⁶⁴ Therap. Gaz., Feb., '97.

¹⁶⁵ Practical Therap., '96.

¹⁶⁶ Dynam. Therap., '93.

¹⁶⁷ Therap. Gaz., May 15, '95.

¹⁶⁸ Med. Press and Circular, Oct. 16, '95.

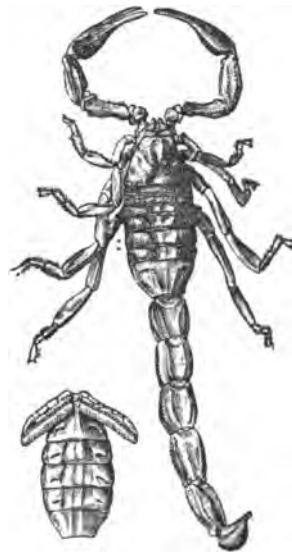
ited dwellings; they have an unpleasant way of hiding over night in one's boots, stockings, or trousers. Indeed it is wise, in tropical countries, to always examine one's clothes before donning them. The scorpion's weapon is in the tail, and is used by bringing the latter forward over the back and head; but the creature first endeavors to lay hold of the object it desires to sting with its clamp-like pincers, presumably to obtain better leverage for his weapon, or to prevent the escape of the foe. According to Stockwell, despite the statements of travelers, scorpion-stings, though painful, are not dangerous to a person in good health, and are easily relieved by camphor, rum, lemon-juice, or solution of carbolic acid, though inflammation may persist, sometimes with slight fever, for a couple of days.

According to Espinosa, of Mexico,¹⁶⁹ the poisoning proves fatal only in children. The oldest child dying under Espinosa's observation was one of about 11 years. Some persons seem not to be at all affected by the sting. Much depends on the species of scorpion, those from "hot lands" being most dangerous. Various remedies were tried, among others jaborandi and alcohol internally and suction, scarification, and ligature locally. No specific has been found. In the town of Durango scorpions abound, and the city authorities have for years given a small reward for those delivered to them. Boys, using long sticks with a burning coal at the end, smoke the scorpions from their nests, catch them, pinch off their stings, and collect them in bottles. In this way many thousands are killed every year.

Banerjee,¹⁷⁰ who, in two months in 1892 treated forty-two cases, states that there are four varieties of the animal, all poisonous. The symptoms observed

in these cases were, for the most part, local and of varying intensity, although constitutional effects were also noted. In some cases an erysipelatous swelling requiring treatment remained about the part stung for as long as seventy-two hours. As a means of overcoming the distressing, burning pain, so common in this affection, chloral-hydrate, used locally by rubbing into the affected part, proved most efficacious in his cases.

Another Indian investigator, Poredi,



The scorpion.

of Akalkote, Deccan,¹⁷¹ has used cocaine in some thirty cases of the same trouble. He states that the relief afforded by this agent is by no means always magical, as some earlier reports would have us believe, but that, in his hands, by its employment, relief, to a certain degree, was often obtained, and, as a rule, in from two to three minutes. His method was

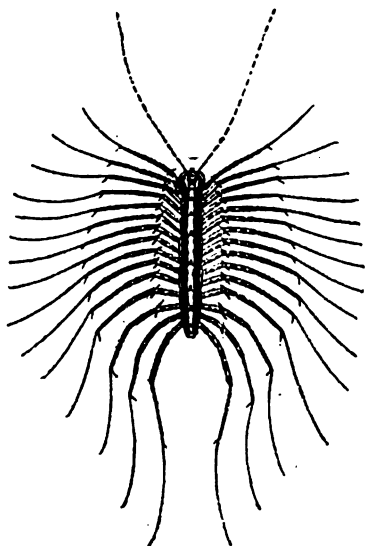
¹⁶⁹ Report of our Corresponding Editor Semeler, of Mexico.

¹⁷⁰ *Lancet*, Oct. 1, '92.

¹⁷¹ *Indian Med. Rec.*, Dec., '92.

to use 1 grain of the drug in 10 to 15 drops of pure water hypodermically in the neighborhood of the bite.

Vinze, of the East Indies,¹⁷² also highly extols applications of camphorated chloral (equal parts of camphor and chloral-hydrate). This mixture gives almost instant relief from the acute pain produced by the venom of the scorpion, it is stated. It only remains to combat the symptoms of collapse which super-



The inoffensive variety of centipede (*Cermatia forceps*).

vene in some cases, and for this purpose milk and brandy are recommended.

Joseph Benjamin¹⁷³ found aromatic spirit of ammonia in 30-minim doses in very hot water every half-hour a valuable remedy. Scorpion-bites in weak persons and children may be characterized by serious symptoms, collapse, clammy perspiration, and low temperature, lasting for seven or eight hours and followed by recovery.

Centipede.—The centipede is frequently met with in the tropics. Its

size varies from an inch up to six inches in length, and of less than a quarter of an inch to the size of one's thumb in diameter. Its bite is about as venomous as the sting of the scorpion and may prove serious in children and persons weakened by excessive fatigue, disease, and the inordinate use of alcohol. The habits of the centipede are very like those of the scorpion. Its weapons are its jaws; and it has an unpleasant way of taking possession of loose wearing-gear and of climbing up trouser-legs. Like the scorpion, it is apt to penetrate into crevices and other dark places, and it occasionally ensconces itself into the depths of a boot or a shoe. Hence the advisability of always shaking out footwear before putting it on.

What is usually called centipede in our country is not the insect met with in the tropics. The form of which we give an illustration—namely, the *Cermatia forceps*—has very long legs, and only fifteen pairs of them. It usually lives under stones, logs, or bark. Although greatly feared when met in the kitchen or yard, it is harmless, and, in fact, as its aim is to destroy cockroaches, and feed upon them, it may be regarded as a welcome visitor rather than as an enemy. The venomous species may be recognized by the fact that its legs are quite short, and that each segment of the body bears a single pair of legs. The body is usually flattened and brownish yellow, and the antennæ are long and many-jointed, as shown in the annexed engraving.

The treatment of centipede-bites is the same as that of the sting of the scorpion.

Snakes.—According to G. Archie

¹⁷² *La Semaine Méd.*, vol. xv, No. 222, '95.

¹⁷³ *Indian Lancet*, Dec. 16, '96.

Stockwell,¹⁷⁴ there is but one virulent serpent in Cuba and Porto Rico, and but two in the Philippines. That of the former islands, known as *boaquira*, or *juba*, never more than four or five feet long, is identical with the rattlesnake of Florida, and fortunately can generally be recognized by its mode of coiling when about to assume the offensive, and the warning it always gives before striking.

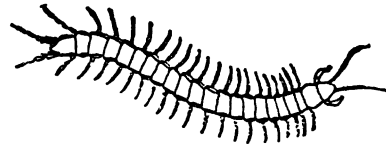
There is also in this island a form of tree-boia known as the *maja* (pronounced "mah-ya"), which seldom exceeds seven feet in length. It is harmless as regards man, except when escape is impossible. Because of the peculiar, hooked character of its teeth it inflicts fierce, ugly, deep, and ragged bites, that may, though the creature is in no sense venomous, provoke bad ulcers.

Two venomous reptiles, besides a form of boa, inhabit the Philippines. One of the former frequently attains a length of nine or ten feet, and, unlike poisonous reptiles as a class,—there are but three or four exceptions,—is apt to take the offensive and attack man. One should never flee from it, since then his fate is sealed; but with a switch or club it is easily dispatched by a slight blow on the neck. The other venomous reptile is a small viper, apt to lurk beneath thick herbage; but it is for the most part nocturnal in habit. It is well to examine boots and clothing for its presence, before donning the same in the morning. This viper may be recognized by its club-shaped or obtusely-pointed tail.

The claim that venomous serpents can always be known by their broad, flat, lanceolate heads is by no means to be depended upon, according to Stockwell; but they usually exhibit an aperture or slit on each cheek behind the nostrils,

and an elongate vertical pupil like many other nocturnal creatures—for venomous snakes are generally nocturnal or crepuscular, or both, and when met abroad in the day-time their presence is due to accident. Among distinctive features mentioned is the fact that no venomous serpent will ever be found in or on a tree, and most of them have clubbed, instead of slender tails. Rattlesnakes prefer, as a rule, the more dry, elevated, and stony districts.

When other evidence is lacking as to the character of the reptile, and it is desirable to ascertain whether a snake which has inflicted an injury is venomous or not, it may be pinned to the ground by means of a short-forked stick pressed upon the neck immediately be-



The venomous centipede.

hind the head, when the mouth can be pried open and examined for poison-fangs. Commonly, under such circumstances, the fangs will be seen hanging perpendicularly from either side of the forepart of the upper jaw, or they may be directed forward in a horizontal plane, just projecting beneath the upper lip: the position for wounding or striking. Again, if the creature is enraged, minute drops of mixed venom and saliva will be seen exuding and dripping from the fangs. If the serpent is quiescent, these fangs are retracted until they lie horizontally along the upper jaw with their points looking backward.

Although rattlesnakes are dangerous,

¹⁷⁴ Scientific Amer., No. 421.

more so in warm than in more temperate regions, Stockwell affirms that the wounds they inflict are not so universally fatal as popular prejudice would lead people to believe; were this not so, there would never have been exploited the number of nostrums that on various occasions have received credit as being "perfect antidotes" and "sure cures." He argues that as a matter of fact, there is no such thing as an antidote to serpent-venom; it is a physiological impossibility. The phenomena developed, including the swelling and discoloration of the parts, are attributed by him to the fact that the poison destroys the red corpuscles of the blood with which it comes in contact; these bodies become agglutinated; some, clinging to the walls of the smaller blood-vessels, produce the swelling and discoloration, while others, in agglutinated masses, are returned to the heart. In this form they do not take up any of the oxygen provided by the respiratory act, but are sent back through the circulation, a large proportion going to the brain and clogging its minute blood-vessels, interfering with function and provoking paralysis.

G. B. Halford, of Melbourne,¹⁷⁵ sustains the opposite view. While the venom acts primarily on the blood, and, secondarily, on the nervous system, the effects of the poison on the blood are manifested by non-coagulation of the latter in the production of large cells.

Brenning,¹⁷⁶ however, considers the large cells found by Halford to be merely altered leucocytes, and is inclined to think that the poison acts directly on the nervous system, causing, after a short period of irritation, paralysis of the respiratory centre.

The prevailing views are still those of Weir Mitchell and Reichert, who consider that the blood is rendered unco-

agulable, the blood-corpuscles being disintegrated through the destructive influence of the venom upon protoplasm. Blood-extravasation occurs as a result, there is profound depression of the respiratory nerve-centre, medullary hæmorrhage, etc.

The powerful nature of the serpent-venom and its effect upon the circulation can be surmised from the fact that those poisoned develop most foetid exhalations of body and breath, their mucous membranes, particularly of the nose and mouth, become spongy and bleed on the least provocation, and the hæmorrhage, though seemingly of natural hue, gives scarcely any stain or color to a handkerchief or other white cloth, evidencing the great destruction wrought among the red blood-globules.

Treatment.—The first step is to apply a ligature—a tightly-tied and twisted cord or handkerchief—about the bitten limb, and above the wound, and then, as soon as possible seek the services of a medical man. As the poison exerts its chief effect upon the brain and nervous centres, as evidenced by drowsiness, stupor, and failure of heart and respiration, every effort should be made to combat the two former and sustain the two latter, which is best done by violent exercise, which should be physically enforced if necessary. Not only will this sustain the heart and respiration, but it will tend to increase the cutaneous elimination of the toxic products resulting from the necrotic changes caused by the venom. Alcohol, except when given by a medical man to stimulate and sustain a flagging heart and circulation (and

¹⁷⁵ Thoughts, Observations, and Experiments on the Action of Snake-venom on the Blood, '94.

¹⁷⁶ Die Vergiftungen durch Schlangen, '95.

its action requires to be carefully and steadily watched) is detrimental rather than beneficial. Large draughts of strong coffee are, on the contrary, of great value.

Suction has often been resorted to; but this procedure is considered dangerous by some observers. G. Roux¹⁷⁷ advises the use of the dry cup instead of the mouth to exercise suction upon the wound. That serious effects may follow in a person who performs suction of a poisonous wound is shown by a case published by Hirschhorn.¹⁷⁸ After applying suction to the wound of a girl bitten by a viper, a man experienced a painful swelling of the left submaxillary region extending to the neck, the chest, and the upper extremity. Vertigo, inability to stand, and clonic spasms of the left side of the body occurred, and an exanthema resembling urticaria was present for two hours. Examination showed that inoculation had taken place through a lacerated gum, a tooth having been extracted shortly before.

A. Mueller¹⁷⁹ very strongly advocates the use of hypodermic injections of strychnine in the treatment of snake-bite. Large doses are given. In one case consciousness did not return until $\frac{1}{12}$ grain of strychnine had been administered. Mueller declares that its action is regular and prompt, and after a time stops entirely. The snake-poison develops regularly, but remains latent for some time; so that, when it has been apparently conquered for a time, it may suddenly start on a new course of symptoms. The strychnine injections should not be employed until unmistakable symptoms of snake-poison are perceptible, for it may act so slowly that the patient succumbs before the state which requires and neutralizes the action of the strychnine has developed. The pa-

tient must be watched for twenty-four hours after the disappearance of the last symptoms, in order to be able to combat, in time, a sudden relapse.

Of thirty-seven cases treated with strychnine by Joshua Duke,¹⁸⁰ recoveries took place in 67.5 per cent. Of this number, eight were reported by Banerjee, of Pachbadra, India, all of which recovered; in some cases the amount of strychnine was enormous (3 to 4 grains during a period of four days). He employs the nitrate of strychnine in $\frac{1}{15}$ -grain doses, repeated about every two hours.

The conclusions reached by Duke are that the hypodermic injections of strychnine is the only remedy to be relied upon; these must be carried out with boldness, but only after the symptoms of snake-poison have become pronounced. If a proper amount of snake-poison to counteract the strychnine is not present in the blood, the latter may itself cause death. If the patients are moribund when seen,—i.e., pulseless and respiration having ceased,—the intravenous method may be adopted.

A remedy now considerably employed in the treatment of venomous bites is a 1-per-cent. solution of permanganate of potassium. In the snake-infested portions of the United States its successful employment has been attested to by many cases.

H. C. Yarrow, of the United States Army,¹⁸¹ conducted experiments with a view to ascertain the value of this salt as a remedy against the venom of the rattlesnake. In cases where the circula-

¹⁷⁷ Le Bull. Méd., June 14, '95.

¹⁷⁸ Wiener med. Presse, No. 30, '95.

¹⁷⁹ Nederlandsch Tijdschrift voor Geneeskunde, Apr. 15, '89.

¹⁸⁰ Indian Med. Gaz., No. 6, '95.

¹⁸¹ Forest and Stream, '88.

tion of the part *could be immediately arrested by a cord*, the drug, when introduced in and around the bite, proved effectual, but not otherwise, although injected within five minutes after the infliction of the wound. Experiments were also made with jaborandi, or pilocarpine, which seemed to prove that the remedy possessed certain antidotal properties.

Lacerda¹⁸² recommends the subcutaneous injection of a solution of permanganate of potassium both around and into the bite in the treatment of snake-bites. In very poisonous varieties, a 5-per-cent. solution may be necessary. In adder-bites Dr. Sallden, a Swedish physician, has found a 1-per-cent. solution sufficient. The injection must be given as soon as possible. Ligation of the bitten limb will retard the absorption of the virus, but not over twenty-five minutes.

Calmette¹⁸³ has recommended serum taken from an immunized ass or a horse. Its immunizing power is, at least, 10,000; that is, an injection into rabbits of a quantity of serum equal to $\frac{1}{10000}$ of their weight enables them, one hour afterward, to support, without signs of poisoning, a dose of $\frac{1}{64}$ grain of dry venom of *Cobra de capello* of medium activity, the same dose being sufficient to kill control rabbits in less than four hours. If injected in sufficient quantity into persons bitten by snakes, the serum prevents the action of the venom, provided intoxication is not too far advanced. It must be injected as soon as possible after the bite. Generally it is efficacious an hour and a half after the bite in adults, who rarely die before three hours have elapsed after the bite of the most venomous species of snakes. The serum is active against the venom of all snakes. The dose varies according to the

species of snake, the age of the person bitten, and the time of administration. Generally $2\frac{1}{2}$ fluidrachms are sufficient for children under 10 years, and 5 fluidrachms for adults. However, when the bite is that of a very dangerous species,—such as the *Cobra de capello*, the *Naja haji*, the *crotalus*, and the *bothrops* of the West Indies,—it is advisable to give one single injection of a double dose at once.

The first precaution to be taken is, as usual, to tightly bandage the bitten limb as near as possible to the bite and between the latter and the trunk. The wound is then to be washed with a solution of hypochlorite of lime diluted to $15\frac{1}{2}$ grains per 2 fluidounces of previously-boiled water. The dose of serum must be injected into the subcutaneous cellular tissue in the right or left side of the abdomen, and with the usual antiseptic precautions. Then, with the same syringe, 2 or $2\frac{1}{2}$ fluidrachms of the 1 to 60 solution of hypochlorite of calcium are to be injected in the different parts surrounding the bite and into the bite proper. These injections are intended to destroy, in and around the wound, the venom which has not yet been absorbed. After these procedures the bandage can be removed from the limb, the patient rubbed, given coffee or tea, and warmly covered, so as to cause abundant perspiration. The administration of ammonia or alcohol must be avoided.

The 1 to 60 solution of chloride of calcium may be employed alone, but Phisalix and Bertrand¹⁸⁴ conclude that the injections of calcium chloride must be made deeply at the actual spot where

¹⁸² Indian Lancet, July 1, '97.

¹⁸³ Brit. Med. Jour., July 20, '95.

¹⁸⁴ Indian Lancet, July 16, '97.

the fangs entered, and that they are useless if made in any other part.

Cases in which the use of chloride of lime produced favorable results have also been reported by Hodgson.¹⁸⁵ Mackenzie¹⁸⁶ and others claim that no local irritation ensues in the majority of cases.

Early, of Ridgeway, Pa.,¹⁸⁷ whose practice lies in the counties of Elk, Clinton, Cameron, and Clearfield, regions abounding in rattlesnakes, has treated successfully twenty-five cases of snake-bites by the free administration of olive-oil,—an old remedy.

Leech.—Besides the insects and reptiles so far mentioned, the Philippine Islands, according to Stockwell, are infested with a bloody-thirsty land-leech, most tormenting, but not dangerous, whose attacks in certain districts are not to be avoided except by the use of stout, tight-fitting, canvas leggings. "Countless hosts of these are met with in rising grounds contiguous to certain low-lying, dark jungles. They are about an inch in length, about the size of a fine, steel knitting-needle, but capable of distension until they have doubled their length and attained a diameter of a goose-quill. Their structure is so flexible that they can insinuate themselves through the meshes of a fine, silk stocking, not only seizing on the feet and ankles, but ascending to the back and throat and fastening on the most tender parts of the body: the scrotum, the thighs, and contiguous parts. The whites are obliged to protect themselves by means of leech-gaiters, the cloth being woven so closely as to be absolutely impermeable. With one extremity planted on the earth, and the other raised perpendicularly, these little pests look out for victims, and such is their vigilance and instinct that on the approach of man, horse, or buffalo, they

may be seen among the fallen leaves and grass, even on the stalks of the latter, close to the edge of the path, poised erect, and waiting to attach themselves. Now, their peculiar mode of progression may be noted: semicircular strides, so to speak, advancing one extremity, arching the body and bringing the other extremity forward, till by successive advances they are able to lay hold of their prey. If it is a man, they ascend the clothing, seeking an entrance through its meshes: and the last of a party always fare the worst, for the little creatures gather with wondrous celerity, being guided apparently more by the vibration produced on the ground than phenomenal range of vision. Their size is so insignificant, and the wounds so skillfully inflicted, that their presence is usually unsuspected until the victim is warned by the trickling of blood or by the cold, clammy touch of the gorged leech pressing upon the skin. In those of robust health, leech-bites amount to little beyond mere annoyance, the difficulty sometimes encountered in stopping the bleeding, slight inflammation, and itching like that experienced from mosquito-bites; but in those of degraded habits, with the germs of tropical fever in their blood, the punctures, if rubbed or scratched, are liable to degenerate into ulcers that may lead to loss of limb or life. In 1815 during the Randyan rebellion in Ceylon, the white soldiers and Madras sepoy suffered so severely from land-leeches that great numbers perished. Horses and cattle are made wild by them, and stamp the ground with fury to shake them from their fetlocks, to which they hang in bloody tassels."

¹⁸⁵ Australian Med. Jour., Dec. 20, '95.

¹⁸⁶ Australian Med. Jour., Dec. 20, '94.

¹⁸⁷ College and Clin. Record, Aug., '88.

Bee- and Wasp- stings. — Marquie¹⁸⁸ reported a case in which death followed a bee-sting. The individual had some time before been made very ill by a bee-sting, the inference being that he was the subject of an idiosyncrasy against this particular form of venom.

Vinze¹⁸⁹ states that camphorated chloral is extremely efficacious for the arrest of the severe pain caused by bee- and wasp- stings.

¹⁸⁸ Jour. de Méd. et de Chir. Pratiques, Dec. 10, '95.

¹⁸⁹ La Semaine Méd., vol. xv, No. 222, '95.

Cyclopædia of Current literature.

ALBUMIN, SIGNIFICANCE OF, IN URINE.

Having determined positively that the albumin takes its origin in the kidney, its presence must be interpreted differently than was formerly the case. It is not serum-albumin, so-called, that is to be considered, but an innumerable variety of isomeric compounds of the proteid series. Its presence may indicate simply its substitution for urea, the structure of the kidney remaining unimpaired for months or years; it may indicate a transudation through the walls of the capillary blood-vessels in conjunction with a traumatism or a truly inflammatory lesion; or, lastly, it may indicate substitution for urea, with marked degenerative changes in the epithelial cells of the kidney. Absence of albumin, on the other hand, must not always be taken as a guarantee that the renal cells are sound; for there are many instances found on record in connection with necropsy-work in which the patients have died toxæmic from an inability of the renal cells to eliminate any form of nitrogenous waste, the urine prior to death being free from albumin and most of the catabolic excretory products; but at the post-mortem the kidneys were in an advanced state of retrograde metamorphosis. Porter (Phila. Med. Jour., April 2, '98).

ALCOHOL.

Use of.—No one should employ alcoholic beverages who has either a family history of drunkenness, insanity, or nervous disease, or who has employed them in excess in childhood or youth. Nor should they be used by the nervous, irritable, or badly nourished; by those who have suffered from injuries of the head, gross diseases of the brain, and sun-stroke; by those who suffer from great bodily weaknesses, particularly during convalescence from exhausting diseases, or are engaged in exciting or exhausting employments in bad air and surroundings as in work-shops and mines. Finally, all who are solitary, lonely, and require amusement, who have a lack of self-control either hereditary or acquired, or who suffer from brain-weaknesses, the result of senile degeneration, should abstain. Clauston (Quar. Jour. of Ineb., April, '98).

BERIBERI.

Symptoms.—On September 12, 1897, a P. & O. fireman complained of pain in the legs, difficulty in walking, fullness about the abdomen, and shortness of breath. There was some cedema over the spine of each tibia, also in the lumbar region, some effusion into the abdominal cavity; temperature normal; pulse, 120;

urine scanty, high colored, but with no albumin. He was vomiting food.

Treatment.—The patient was isolated. Milk, beef-tea, and lime-juice were ordered; also the following at one dose, every third hour:—

- R Potassium nitrate, 20 grains.
- Tincture of squill, 30 minims.
- Tincture of digitalis, 8 minims.
- Spirit of Mindererus, 30 minims.
- Water, to make 1 ounce.—M.

The second day the temperature was normal, the pulse the same as the day before, but the vomiting had ceased. On the third day the pulse was five degrees higher, vomiting recommenced, and the urine was scanty and high colored, but with no albumin. He was now ordered milk and soda-water. In the evening the temperature was 100° F., and he was put in a hot, wet pack and kept there for a full half-hour. As a result, he perspired freely, and the temperature fell to normal. The fourth morning he was better, had not vomited; temperature, 100° F.; the pulse 130, rather incomprehensible; the urine still scanty. Dry cups were applied over the kidneys, followed by a poultice. The evening temperature was 102° F. and the patient was put in the hot, wet pack again, and as before perspired freely. On September 16th the morning temperature was 98.8° F., the pulse 130; the œdema did not appear to be less. The evening temperature was 101.2° F., and he was again put in the wet pack. On September 17th he felt much better, although there was a good deal of œdema still; the tension of the pulse was much less, and he was passing a fair quantity of urine; temperature, 98.6° F., and pulse, 120. The patient made a good recovery, and resumed duty on October 1st. The

œdema had all disappeared. Crosthwait (Brit. Med. Jour., May 14, '98).

CEREBRAL HÆMORRHAGE.

A woman was seized with headache, loss of consciousness, and convulsions, and soon after recovery, which occurred without paralysis, she experienced a second and similar fit. From the last she also recovered, but with impaired vision. On a still later occasion she fell out of bed and was found afterward affected with left hemiplegia, death shortly ensuing. After death the three hæmorrhages corresponding with the three seizures were discovered. The first of these dated ninety-one days before death; the blood was yellow and dry; at the second site, thirty-eight days before death, the clot was gelatinous-looking, and lay in the left occipital lobe. The third clot was a massive one, and involved the basal ganglia. The heart in the same case presented a musculus papillaris inserted directly into the mitral valve. During foetal life a sponge-work of muscle reached the segments of the valve, but later on the portions attached to the valve underwent fibrous transformation; in the present instance the foetal condition had persisted. This condition of heart was first drawn attention to by Ogle. At times the muscular bundle is attached to the valve by either end, and is obviously a persistent relic of what at one time obtained in foetal life. Freyberger (Brit. Med. Jour., April 23, '98).

CHOLAGOGUES.

Experiments were conducted on a patient with cutaneous biliary fistula, in moderately good health, the obstruction to the common bile-duct being complete. Throughout the investigation, the patient was given purified ox-bile sufficient to approximate the experimental to the

normal conditions. The effects of different mineral waters were first studied, sulphur-springs, the strong Montpelier, the Kissingen, chloride-of-iron spas, Harrogate, and Carlsbad; the first, third, and sixth proved cholagogue, but the others caused a decrease of both solids and bile. Euonymin, sodium salicylate and benzoate, irisin, and podophyllin resin also proved cholagogue, and they markedly increased the total solids; but podophyllotoxin decreased both the solids and the quantity of bile. Hot and soda-waters in large doses were negative. Snow (Brit. Med. Jour., May 14, '98).

DOUCHE, NASAL, ABUSE OF.

In most cases nasal hypersecretion is due to other causes than inflammation of the nasal and retronasal mucous membrane: to sinusitis, deviation of the septum, some new growth in the nasal cavity, etc.; nevertheless it is still common practice to have recourse to the nasal douche. In the majority of cases this is useless and it may seriously injure the epithelium of the nasal mucous membrane. In numerous cases the power of smell was lost in this way, and experiment has shown that no active antiseptic solution is free from danger to the sense of smell. The nasal douche is, also, frequently the cause of distressing headaches, probably accounted for by fluid passing into the sinuses. One of the gravest dangers is that water may reach the middle ear through the Eustachian tube and cause suppurative otitis media. Lichtwitz (Med. Press and Circ., Feb. 9, '98).

DYSENTERY.

Amœbic Form.—Of 35 cases, 4 were under ten years of age; 31 were Americans, 18 being white and 13 colored; 4 were Russian Jews. All contracted the

malady in the Southern States, and 30 drank water from surface-wells, which fact may be of etiological importance. Infusoria were found in 6 cases, and amœba in all. Liver-abscess was twice a complication. In studying the amœbæ no evil effect was discoverable from the use of saturated solutions of quinine sulphate or of boric acid. Quinine bisulphate, 1 to 300, and hydrogen dioxide in weak solution soon destroyed the protozoa, as did also tuldine-blue; the use of this latter stain, preceded by eosin, yielded the best results in studying the structure of the protozoön and differentiating it from the tissues. At the necropsy in one case the appendix was found ulcerated and perforated. The usual microscopical changes were swelling and infiltration of the submucosa, hyaline changes in the connective tissues, and destruction of these tissues, along with the loss of a portion of mucosa and proliferation of the edges of the remaining mucous tissue, with undermining of these edges. Surrounding the abscesses of the liver were seen round, refractive bodies resulting from necrosis of the liver-cells, and resembling amœbæ, together with spindle-shaped bodies of the same origin. No relation between the amœbæ and the beginning ulcers could be traced; the latter seemed to occur before the protozoa secured lodgment in the tissues. Hydrogen dioxide, diluted about five times with water and used as an injection yielded good results in treatment. Harris (Amer. Jour. Med. Sci., April, '98).

DYSENTERY, TROPICAL.

Etiology.—This malady is one of the scourges of war. Among the predisposing causes are errors in diet, fatigue, hardship, and anxiety; persons disposed to malaria and scurvy, and exposed to

sudden changes in temperature by day and by night, are most likely to succumb. During the day the sun is burning hot, and the parched soldier cannot resist the temptation to drink the impure but cold water which the "bhístie" brings him. Even filtration does not render the water innocuous; only boiling insures safety. The most refreshing drink in hot dry climates is beer or wine,—spirits do not have the same recuperating power.

Treatment.—First it is advisable, if possible, to remove the patient from the region where the disease was contracted. Rest of body and mind is essential. The diet should be carefully looked after, preference being given to milk, chicken broth, etc. A mustard plaster may be applied to the abdomen, and castor-oil given, followed by a pill of $\frac{1}{2}$ grain of opium; also ipecac; but this is preferably given in 3-grain doses than in the heroic amounts sometimes advocated. An infusion of a native seed known as "*tuphmulunga*" has also proved useful. If the stools are white, frothy, and offensive, mercuric bichloride should be administered. Quinine is also to be recommended, and a warm hip-bath every other day if the griping pains are severe. Surgeon Major Fink (Indian Med. Gaz., Jan., '98).

Since 1891 the conclusion has been arrived at that the treatment of tropical dysentery with ipecac is not wholly satisfactory. At first sulphate of soda (Glauber's salt) was tried, but rejected, as the results were not encouraging. The best method appears to be to put the patient at once on milk diet and give 2 drachms of Epsom salt, combined with 5 minims of aromatic sulphuric acid, every four hours until the flow of bile is well established, as evidenced by the stools; then the mixture should be stopped, and from

$\frac{1}{4}$ to $\frac{1}{2}$ of a pure gall-nut triturated well with water, given every fourth hour. By the second or third day the dysentery is gone and the patient starts his duties again, being restricted to soft food for a day or so. The magnesium sulphate, in the form above given, appears, from its physiological action to be the drug *par excellence* for counteracting the pathology of dysentery, even though the origin of the malady be the amebæ, as the free flow of bile is the best intestinal disinfectant, and this, aided by the Epsom salt, and depletive action on the intestines and portal system (which these small doses have) gives the necessary antiseptic and antiputrefactive flushing for the polluted tract. If advisable, local applications in the form of counter-irritants or fomentations over the large bowel can be also prescribed, but there is seldom any occasion therefor. The foregoing treatment does not, however, apply to chronic dysentery. Surgeon Captain Johnston (Brit. Med. Jour., April 16, '98).

Drachm-doses of muriate of ammonia every four hours, and a milk-and-arrow-root diet, are to be highly commended in tropical dysentery. Under this treatment, it is a matter of surprise how quickly the blood disappears from the stools—generally on the third and fourth day—and perfect freedom from pain is secured. In severe cases small doses of opium and cannabis Indica dissolved in a little honey, and mixed with a quarter of bæil fruit (Bengal quince), are very useful. Attygalls (Brit. Med. Jour., May 7, '98).

EAR, SUPPURATION OF MIDDLE.

Operative Treatment.—A selection must be made between two operations: one that merely involves the mastoid antrum; the other exposing freely the

cavity of the middle ear: the so-called radical operation. The former is indicated in cases of acute suppurative inflammation of the middle ear, which after fourteen days of so-called dry treatment do not show signs of improvement; it is not advisable to wait till dangerous symptoms arise. The radical operation is called for usually in chronic cases, which, in spite of a course of treatment pursued for two months, have not improved. Especially is this true when the subjective disturbances—*e.g.*, headache, tinnitus aurium, dizziness—interfere with the patient's welfare, or when there is continued fever or signs of pyæmia. Müller (*Deut. med. Woch.*, March 31, '98).

ENTERIC FEVER.

Symptoms.—In the course of a case of typhoid fever persistent hæmorrhage from the mucous membrane appeared. The condition resembled hæmophilia, for styptics were unavailing, and the blood showed no tendency to clot. Suddenly, however, clots began to appear in the blood from the mouth, and the hæmorrhage soon stopped. The next morning the typical signs of croupous pneumonia were present. Openchowski (*Klin.-Therap. Woch.*, Jan. 2, '98).

FRACTURE OF ELBOW-JOINT.

Treatment.—The fragments can in no way be so firmly and exactly replaced and held in position as by forcibly flexing the forearm on the arm. The final results, in 30 cases treated by putting the forearm in acute flexion, by careful measurement and comparison with the results obtained by the older methods of treatment, show that the former gives a greater average degree of motion. After the forearm has been placed in position, it is held by a strip of adhesive plaster carried around the wrist and

about the upper arm as highly as possible. The weight of the hand may be supported by a narrow sling around the wrist and over the neck, but a full arm-sling is not necessary. Probably early motion increases the amount of deposit and the density of the bands of adhesion, so that the rest of the joint for from four to six weeks is to be recommended. Smith (*Jour. of Med. Sci.*, April, '98).

FRACTURE OF PATELLA.

Treatment.—The methods now employed seem to possess certain disadvantages. A modification of the open method of suture is proposed. The seat of the fracture is laid open by a curved incision with its convexity upward, beginning just below the level of the broken surface of the lower fragment, thence curving upward and crossing the middle of the upper fragment, to end on the opposite side of the joint corresponding with its point of origin. The flap is dissected back in such a way that all the fibrous matter previously uniting the fragments is left attached to the deep surface of the middle of the flap and the remains of the patellar bursa. The advantages of this method, are, first, that free access to the parts is gained, with a minimum amount of cutting; and, secondly, that the resulting scar is out of reach of pressure either from kneeling or from the knot of the wire. The fragments are approximated by a stout silver wire introduced subcutaneously. As to the after-treatment, no splint is employed and the patient is encouraged to gently move the joint in bed from the first, massage being employed daily around the joint. Barker (*Lancet*, Lond., April 2, '98).

FUNIS, SHORT.

A woman in her third pregnancy, attended by a midwife, had been in labor

for eighteen hours and was suffering terrific pain in the abdomen with every convulsive contraction. There was plenty of room in the parturient strait, and forceps were applied. After moderate traction something popped like a gun and the head was easily delivered. Profuse bleeding was arrested by applying forceps to the short stump of the cord. On delivering the placenta the cord was found to be but six and one-half inches long. The partially inverted uterus was reduced by means of a heavy probe wrapped with absorbent cotton. The child survived and did well. Krim (*Pediat.*, Feb., '98).

HERNIA.

Etiology.—Hernias should be divided into two distinct classes, viz.: acute or strangulated, and chronic or reducible. These differ in causation, pathology, course, treatment, and prognosis, and therefore should be considered separately. The acute form is due to interference with the blood-supply, produced by some sudden and violent force from without, and demands immediate surgical interference. The chronic variety will, in most cases, be found to follow intra-abdominal pressure produced by either persistent cough, hæmorrhoids, or stricture. Operation for this last variety is not imperative and should not be undertaken until the actual cause has been removed, for unless this precaution be taken all the so-called radical methods will result in failure. Bishop (*N. Y. Med. Jour.*, April 16, '98).

Treatment.—**TAXIS.**—Forced taxis is apt to prove dangerous. A patient had an omental hernia (scrotal), into the sac of which subsequently a knuckle of gut had slipped and become incarcerated. Under anæsthesia reduction of the hernial contents into the inguinal canal was

effected, but rupture of the sac took place, with escape of intestine and omentum into the space between the peritoneum and the transversalis fascia. Strangulation followed, requiring operative intervention, from which the patient did not recover. Bennecke (*Berl. klin. Woch.*, March 21, '98).

RADICAL OPERATION.—The hernial sac, having been exposed by division of the tissues constituting the anterior wall of the inguinal canal, is separated throughout its entirety and a small opening made in it. The latter may not be necessary where the contents of the sac are reducible, yet to make sure that there are no adhesions which, if not separated and tied off close to their points of origin, may occasion subsequent trouble, this is done. In addition to separating the sac from the canal it is separated from the circumference of the abdominal aspect of the internal ring. It is now folded up and delivered within the abdomen, and anchored by means of a suture made to traverse the abdominal walls, which is tied down upon the aponeurosis of the external oblique. The remaining part of the operation, that of closing the canal, is a modification of the Bassini and Halsted operations. The cord is held aside and the walls of the canal apposed with interrupted, silver-wire sutures introduced by means of the Reverdin needle. Commencing below, at the lower end of the wound and suturing upward, the aponeurosis, the anterior sheath of the rectus, the rectus, triangular ligaments of the abdominal walls, the conjoined tendon, transversalis fascia, and, finally, Poupart's ligament are transfixated with the needle and the suture placed. The second suture traverses the aponeurosis, conjoined tendon, transversalis fascia, and Poupart's ligament; the third, aponeurosis, the fibres

of the internal oblique, transversalis, transversalis fascia, and Poupart's ligament; the fourth and fifth, as the case may be, the same structures as the third. Before these sutures are tied the edges of the divided aponeurosis are apposed by a continuous, kangaroo-tendon suture, sufficient space being allowed at the upper part of the canal for the exit of the cord. The interrupted, silver-wire sutures are now tied, the cord placed in contact with the aponeurosis, and the skin and the fascia brought together by either a subcuticular, silver-wire suture or interrupted, worm-gut sutures. It will be seen that the foregoing procedure is a modification of the open operations, combining the advantages of that of Macewen. Deaver (*Annals of Surgery*, April, '98).

IVY POISONING.

Transmission. — It has often been queried whether a person suffering from poisoning could transfer the malady to another. Though such may be unusual, it certainly does, sometimes, happen. Four cases were discovered in literature corroborative of this. In two cases the poison was transmitted without the occurrence of dermatitis in the first person, and one case resulted fatally.

Treatment. — Preferably a soap-and-water bath forms the initial treatment, followed by soothing applications, such as calamin. The destruction of the *Rhus toxicodendron* should be undertaken by and made the duty of boards of health. Frank (*Med. Record*, April 16, '98).

ORTHOFORM.

This drug is absolutely free from any toxic property, and consequently may be used with perfect freedom. When it comes in contact with sensory nerve-

filaments, it has a powerful anæsthetic effect, which persists in some instances for three or four days; on account of this property it is an excellent dressing for burns or painful ulcers. Another important property is its inhibiting effect upon secretion, and in case of carcinomatous ulcers or of transplantation-wounds the dressings remain so dry that they seldom require renewal. Kallenberger (*Berliner klin. Woch.*, March 11, '98).

PNEUMONIA.

Diagnosis. — Nervous symptoms are more frequent in this malady than in typhoid, and from the onset may so dominate that the local lesion is entirely overlooked. For instance, in the case of cerebral pneumonia of children, in which the disease sets in with a convulsion, there is high fever, delirium, great irritability, muscular tremor, and perhaps retraction of the head and neck, and consequently meningitis is usually diagnosed. Cases in which the malady sets in with acute mania: a young man behaved so strangely on a train that he was handed over to the police as a lunatic, and as he had no cough and little fever (though he complained of pain in the side), pneumonia was not recognized for several days. Again, pulmonary features are frequently marked where the patient has delirium tremens, and error is certain to occur unless it is made an invariable rule to examine the chest in these cases. Then, there are cases with toxic features, resembling uræmia; without chill, cough, or pain in the side, the patient may develop fever, a little shortness of breath, and then gradually grow dull, heavy, and within three days there may be a condition of profound toxæmia with low, muttering delirium. In many of these cases the most characteristic symptoms of the disease may be absent,

particularly the cough and rusty sputum; but the physical signs—if they are elicitable—are well marked. Even in the gravest of these cerebral cases the crises and the onset of convalescence may occur in the ordinary way, and the patient may pass from a condition of extreme danger to one of perfect safety. Osler (*Maryland Med. Jour.*, March 12, '98).

YELLOW FEVER.

Pathology.—Albuminuria and the presence of bile in the urine are constant symptoms of yellow fever, appearing about the fourth day in mild and earlier in severe cases. The presence of the malarial hæmatozoön does not preclude the possibility of yellow fever. In solution, 1 to 10, yellow-fever blood does not give

any reaction with pure cultures of the typhoid bacillus. Excepting the diminution of hæmoglobin, the blood does not show any marked changes. The most characteristic pathological changes in the organs are: marked steatosis and congestion of liver, kidneys, and heart; marked congestions, erosions, and hæmorrhages of the stomach and intestines; and, usually, absence of lesions in the spleen and lungs; the other tissues present marked icterus and congestion. The bacillus isolated and with which experiments were conducted at the Isolation Hospital, New Orleans, is identical with that reported by Sanarelli as the bacillus icteroides, and the results obtained would seem to justify its consideration as the special cause of yellow fever. Klebs (*Jour. Amer. Med. Assoc.*, April 16, '98).

Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following monographs:—

A Case of Successful Removal of a Large Pedunculated Accessory Lobe of the Liver. By Christopher Martin, M.B., F.R.C.S., Birmingham, 1898.—A Case of Rupture of the Liver Successfully Treated by Abdominal Section. By Christopher Martin, M.B., F.R.C.S., Birmingham, 1897.—The Other Kidney in Contemplated Nephrectomy. By George M. Edebohls, A.M., M.D., New York City, 1898.—The Inguinal Operation for Femoral Hernia. By George M. Edebohls, A.M., M.D., New York City, 1897.—Johns Hopkins Hospital Reports. Report in Gynecology. Vol. vii, Nos. 1-2.—Annual Reports, Department of Agriculture. Washington, D. C., 1897.—Medical Report, Society of the Lying-In Hospital of the City of New York, 1897.—The Treatment of Carcinoma of the Stomach. J. M. G. Carter, M.D., Waukegan, Ill.—Treatment of Dropsy. By T. S. Dabney, M.D., New Orleans, 1881.—Treatment of Yellow Fever. T. S. Dabney, M.D., New Orleans, La., 1897.—Some Remarks and Reports Upon Specimens in Abdominal Surgery. By H. O. Walker, M.D., Detroit, Mich., 1898.—Circumcision, with a Description of a Pair of Circumcision Forceps. By Alexander L. Hodgdon, M.D., Baltimore, 1897.—Some Reasons for the Performance of Circumcision on all Male Infants. By Alexander L. Hodgdon, M.D., Baltimore, 1893.—A Glance at Psychiatry and Neurology as it Exists To-day and in the Olden Times. By Alexander L. Hodgdon, M.D., Baltimore, 1897.—Alcoholic Insanity and Excess, with a Reference to the Opium Habit. By Alexander L. Hodgdon, M.D., Baltimore, 1897.—Epilepsy. By Alexander L. Hodgdon, M.D., Baltimore, 1897.—Pre-

putial Reflex Epileptiform Convulsions, with Report of a Case. By Alexander L. Hodgdon, M.D., Baltimore, 1897.—Prevention of Nervous Disorders. Alexander L. Hodgdon, M.D., Baltimore, 1898.—The Surgery of Tuberculosis of the Peritoneum. By Parker Syme, M.D., New York, 1898.—The Essential Rôle of the Pneumogastric Nerves in Yellow Fever as Shown by Experiments, with Remarks. By Adrian Hava, M.D., New Orleans, La., 1898.

EDITORIAL STAFF.
Sajous's Annual and Analytical Cyclopædia of Practical Medicine.

Editor-in-Chief, CHAS. E. de M. SAJOUS, M.D.

ASSOCIATE EDITORS.

J. GEORGE ADAMI, M.D.,
MONTREAL, P. Q.
LEWIS H. ADLER, M.D.,
PHILADELPHIA.
JAMES M. ANDERS, M.D., LL.D.,
PHILADELPHIA.
G. APOSTOLI, M.D.,
PARIS, FRANCE.
A. D. BLACKADER, M.D.,
MONTREAL, P. Q.
ARTHUR AMES BLISS, M.D.,
PHILADELPHIA.
E. D. BONDURANT, M.D.,
MOBILE, ALA.
DAVID BOVAIRD, M.D.,
NEW YORK CITY.
L. BROCC, M.D.,
PARIS, FRANCE.
WILLIAM BROWNING, M.D.,
BROOKLYN, N. Y.
WILLIAM T. BULL, M.D.,
NEW YORK CITY.
CHARLES W. BURR, M.D.,
PHILADELPHIA.
DUDLEY W. BUXTON, M.D., M.R.C.P.,
LONDON, ENGLAND.
HENRY T. BYFORD, M.D.,
CHICAGO, ILL.
J. ABBOTT CANTRELL, M.D.,
PHILADELPHIA.
WILLIAM B. COLEY, M.D.,
NEW YORK CITY.
P. S. CONNER, M.D., LL.D.,
CINCINNATI, OHIO.
FLOYD M. CRANDALL, M.D.,
NEW YORK CITY.
ANDREW F. CURRIER, M.D.,
NEW YORK CITY.
JUDSON DALAND, M.D.,
PHILADELPHIA.
N. S. DAVIS, M.D.,
CHICAGO, ILL.
F. EKLUND, M.D.,
STOCKHOLM, SWEDEN.
AUGUSTUS A. ESHNER, M.D.,
PHILADELPHIA.
J. T. ESKRIDGE, M.D.,
DENVER, COL.
CHRISTIAN FENGER, M.D.,
CHICAGO, ILL.
SIMON FLEXNER, M.D.,
BALTIMORE, MD.

LEONARD FREEMAN, M.D.,
DENVER, COL.
J. McFADDEN GASTON, M.D.,
ATLANTA, GA.
J. E. GRAHAM, M.D.,
TORONTO, ONT.
JULES GRAND, M.D.,
PARIS, FRANCE.
EGBERT H. GRANDIN, M.D.,
NEW YORK CITY.
LONDON CARTER GRAY, M.D.,
NEW YORK CITY.
J. P. CROZER GRIFFITH, M.D.,
PHILADELPHIA.
A. GOUQUENHEIM, M.D.,
PARIS, FRANCE.
C. M. HAY, M.D.,
PHILADELPHIA.
FREDERICK P. HENRY, M.D.,
PHILADELPHIA.
EDWARD JACKSON, M.D.,
DENVER, COL.
NORMAN KERR, M.D., F.L.S.,
LONDON, ENGLAND.
EDWARD L. KEYES, JR., M.D.,
NEW YORK CITY.
H. KRAUSE, M.D.,
BERLIN, GERMANY.
E. LANDOLT, M.D.,
PARIS, FRANCE.
ERNEST LAPLACE, M.D., LL.D.,
PHILADELPHIA.
R. LÉPINE, M.D.,
LYONS, FRANCE.
F. LEVISON, M.D.,
COPENHAGEN, DENMARK.
A. LUTAUD, M.D.,
PARIS, FRANCE.
F. MASSEI, M.D.,
NAPLES, ITALY.
E. E. MONTGOMERY, M.D.,
PHILADELPHIA.
JULES MOREL, M.D.,
GHENT, BELGIUM.
HOLGER MYGIND, M.D.,
COPENHAGEN, DENMARK.
W. P. NORTHRUP, M.D.,
NEW YORK CITY.
H. OBERSTEINER, M.D.,
VIENNA, AUSTRIA.
CHARLES A. OLIVER, M.D.,
PHILADELPHIA.

WILLIAM OSLER, M.D.,
BALTIMORE, MD.
F. A. PACKARD, M.D.,
PHILADELPHIA.
LEWIS S. PILCHER, M.D.,
BROOKLYN, N. Y.
WILLIAM CAMPBELL POSEY, M.D.,
PHILADELPHIA.
W. B. PRITCHARD, M.D.,
NEW YORK CITY.
GEORGE H. ROHÉ, M.D.,
SYKESVILLE, MD.
ALFRED RUBINO, M.D.,
NAPLES, ITALY.
LEWIS A. SAYRE, M.D.,
NEW YORK CITY.
REGINALD H. SAYRE, M.D.,
NEW YORK CITY.
SOLOMON SOLIS-COHEN, M.D.,
PHILADELPHIA.
H. W. STELWAGON, M.D.,
PHILADELPHIA.
D. D. STEWART, M.D.,
PHILADELPHIA.
LEWIS A. STIMSON, M.D.,
NEW YORK CITY.
G. ARCHIE STOCKWELL, M.D.,
NEW YORK CITY.
B. J. STOKVIS, M.D.,
AMSTERDAM, HOLLAND.
LOUIS McLANE TIFFANY, M.D.,
BALTIMORE, MD.
CHARLES S. TURNBULL, M.D.,
PHILADELPHIA.
F. VAN IMSCHOOT, M.D.,
GHENT, BELGIUM.
HERMAN F. VICKERY, M.D.,
BOSTON, MASS.
RIDGELY B. WARFIELD, M.D.,
BALTIMORE, MD.
J. WILLIAM WHITE, M.D.,
PHILADELPHIA.
W. NORTON WHITNEY, M.D.,
TOKIO, JAPAN.
JAMES C. WILSON, M.D.,
PHILADELPHIA.
C. SUMNER WITHERSTONE, M.D.,
PHILADELPHIA.
WALTER WYMAN, M.D.,
WASHINGTON, D. C.

[End of the Editorial Department of the Monthly Cyclopædia for June, 1898.]

THE MONTHLY CYCLOPÆDIA OF PRACTICAL MEDICINE.

Vol. XII.
Old Series.

PHILADELPHIA, JULY, 1898.

Vol. I. No. 7.
New Series.

TABLE OF CONTENTS.

PAGE	PAGE	PAGE
ALOPECIA. Black..... 266	GONORRHEA, SECONDARY. Schuster..... 269	RHEUMATISM 275
Etiology..... 266	Etiology of Complications..... 269	Etiology. Bloch..... 275
Prophylaxis..... 266	Treatment..... 270	Treatment. Lemoine..... 275
AMMONIA SALTS IN SUCKLINGS.	HEART DISORDERS. Tickell..... 270	RUMINATION IN MAN. Sinkler..... 276
Keller..... 266	Treatment..... 270	Etiology..... 276
BURN, X-RAY. J. P. Tuttle..... 267	HERNIA, INFANTILE UMBILICAL.	Treatment..... 276
CHOLERA INFANTUM.	Ecceles..... 270	SOURETY, INFANTILE. Abt..... 276
Symptoms. Potter..... 241	Etiology..... 270	Treatment. Moizard..... 277
Treatment. Symes, Jacobi, Loin, Du-	Treatment..... 271	TETANUS 280
rodie, Lesage..... 242	INFANTILE DIARRHEA 255	Diagnosis. Romme..... 280
CHOLERA MORBUS.	Etiology. Symes, Cumston, Robinson..... 255	Etiology. Burot, Kassowitz, Loper,
Treatment. N. S. Davis..... 243	Pathology. Baginsky, Gilbert..... 266	Ortega, Berlitzheimer, Dayus, Ru-
COCAINE-INEBRIETY. T. D. Crothers..... 267	Treatment. Watu, Dessau, Gilbert,	beska..... 259
Symptoms..... 267	Epstein, Robinson, Bowles, Ne-	Pathology. W. K. Hunter, Pitfield,
Treatment..... 267	ville, Comby, Fenwick, Mikhne-	Marinesco, Kitasato, Marie..... 261
CONSTIPATION 244	vitch, Tompkins, Crandall..... 256	Treatment. Engelmann, Lambert,
Complications. Hubert..... 245	INSECT-BITES. Ottinger..... 271	Goudrich, Webber, Turner, Chal-
Etiology. Cook, Ewald, Robinson,	Treatment..... 271	mers, Jacob, Bristol, Medio-Chir-
Finout..... 244	KIDNEY, MOVABLE. Ecceles..... 271	urg. Jour., Nooard, Höffing,
Treatment. Editorial Journal des	Treatment..... 271	Maestro..... 261
Practiciens, Southworth, Jacobi,	MEASLES 271	TUBERCULOSIS OF JOINTS. Briesel..... 277
Carrière, Boas, Ewald, Rosen-	Diagnosis. Koplik..... 272	Treatment..... 277
heim, Fox, Pfaff, Boynton, de	Infection. Henoch, Osler, Ashby,	UNGUAL PHALANX, DISLOCATION
Holstein..... 245	Wright, Douglas..... 271	OF. Huntley-Peck..... 277
CYSTITIS 249	Sequels. Editor..... 272	URETHRAL STRICTURE. Howland..... 278
Diagnosis. Guépin and Grandcourt..... 249	Treatment. Hunter..... 272	Treatment..... 278
Etiology. Shradly, Hutinel, Rovsing,	NEPHRITIS ACUTE 272	URTICARIA WITH RECURRENT HÆM-
Walker, Walls..... 250	Complications. Kerley..... 272	ATEMESIS. Chittenden..... 278
Prophylaxis. Noble..... 250	Treatment. Kerley, Black..... 272	Treatment..... 278
Symptoms. Guitéras, Hutinel, Woll-	NYSTAGMUS, ACQUIRED. Percival..... 272	VEGETARIANISM. Surgeon Captain
stein..... 249	Diagnosis..... 273	Grant..... 278
Treatment. Guyon Elliott, Nicolaier,	Remarks..... 273	VOMITING IN PREGNANCY 263
Medical News, Bannet, Harovis,	Treatment..... 273	Symptoms. Pozzi..... 263
Collin, Bloom, Escat, Garceau..... 251	PELVIC DRAINAGE. Ground..... 273	Pathology. Pozzi, Temple, Hedra,
Varieties. Melchior..... 249	PHTHISIS, COUGH. Journal de Méd.	Tumas, Gilles, Bae..... 263
DERMATITIS VENERATA 253	de Paris..... 273	Treatment. Pozzi, Gautier, Tridone,
Etiology. Rohé, White, Pfaff, Malsch..... 253	Diagnosis..... 273	Giacotti, Réclus, Gardner, Mau-
Symptoms. Rohé..... 254	PNEUMONIA, ACUTE. T. J. Mays..... 273	ray, Hanks, Jewett, Cameron,
Treatment. Rohé, Hardaway, Van	Treatment..... 273	McDonald, Gallois..... 264
Harlingen, J. C. White..... 255	PNEUMONIA, GROUPOUS. Ironside..... 274	VOMITING OF UTERINE ORIGIN 278
DOUGHER, VAGINAL. E. C. Dudley..... 268	Abnormal Temperature..... 274	Pathology. Shaw..... 278
EPILEPSY, PLUMBIC. Rowland..... 268	POISONING BY COAL-GAS. Bolton..... 274	Treatment. Shaw, Watson..... 278
Treatment..... 268	Diagnosis..... 274	WHOOPING-COUGH. Lancaster..... 279
Erysipelas. Lobk..... 269	POISONING BY STRAMONIUM. Shaw..... 274	Treatment..... 279
Treatment..... 269	Symptoms..... 274	WINE AND CIRRHOSES. Richet..... 279
GASTRALGIA. Ewald..... 269	Treatment..... 275	X-RAY BLINDNESS. Sangre..... 280
Treatment..... 269	RESPIRATION, INTRA-UTERINE.	EDITORIAL STAFF. 280
GLAUCOMA. Lavagna..... 269	Kevin..... 275	

Cyclopædia of the Year's literature.

CHOLERA INFANTUM.

Symptoms.—Potter¹ considers that it is not difficult to make a diagnosis of a typical case of cholera infantum, but when the disease is acute and in a severe

form, with the complications or extreme symptoms present, the disease is sometimes difficult to diagnose until further

¹ Annals of Gynec. and Ped., Apr., '98.

developments occur. The different forms of dysentery and diarrhoea are very often mistaken for cholera infantum when they occur with symptoms different from typical cases, but here the course of the disease and the condition of the faeces will generally decide. In the former diseases there is not the great prostration present unless the disease has become chronic, but frequently those diseases assume a condition very similar to cholera infantum. Another diagnostic point of some value would be the absence of vomiting and indigestion in dysentery and diarrhoea; still it is possible for these symptoms to occur in acute cases of these diseases. A diagnosis between true cholera infantum and cholera nostras is sometimes difficult to make; still, while in the former the faeces are apt to be green with mucus, in the latter they soon have the typical rice-water appearance, and generally more pain is experienced.

In an acute case of cholera infantum with convulsions, or with the severe brain lesions that sometimes occur, vomiting and moderate bowel disorder being present, meningitis or hydrocephalus have been diagnosed instead of intestinal enteritis. Irritating poisons taken into the stomach may sometimes resemble, to a certain extent, cholera infantum, but as a history is generally to be found, and the vomiting is generally excessive, a diagnosis is not on the whole difficult.

Treatment.—Symes² considers in the absence of any antitoxin or specific remedy for the infective forms, that almost all cases could be managed under the following indications: 1. General management. 2. Removal of irritating particles from the bowel. 3. Diet. 4. Antiseptics to arrest fermentation. 5. Irrigation of the bowel. 6. Sedatives to allay peristalsis. 7. Restoratives in case of collapse.

Jacobi³ states that cholera infantum is the result of a profound and rapid poisoning from the absorption of toxins produced in the intestinal tract, usually from the fermentations of food. Therefore, the indications for treatment are not opiates, but the rapid elimination of these poisons by saline cathartics, abundance of pure water, washing the stomach, and high and frequent irrigations of the bowels, with such stimulants as will enable the patient to overcome the poison already absorbed. The best stimulants are whisky, camphor and musk. Whisky should always be diluted; camphor (one-fourth to two grains every hour) may be taken with glycerin and suspended in mucilage; and musk (one grain every half-hour) also suspended in mucilage. He recommends in threatening cases of heart failure, strong coffee, hot or iced, according to circumstances; or the injection into the bowel through a long flexible tube, of hot water with some alcohol, and one or more drops of tincture of opium.

Loin⁴ in children from 6 weeks to 3 months old, suffering from infantile cholera resisting all sorts of treatment, has had recourse to subcutaneous injections of normal saline solution in doses of one and one-half ounces morning and evening. After the first or second injection the frequency of the stools diminished, they began to regain their normal consistence and appearance, and in a few days the patient recovered.

Durodie⁵ considers the value of artificial serum injections in the treatment of cholera infantum. In pressing cases intravenous injections are to be resorted

² Brit. Med. Jour., May 8, '97.

³ Pediatrics, July 1, '97.

⁴ Sem. Méd., clxxvi; Brit. Med. Jour., Nov. '97.

⁵ Jour. de Méd. de Bordeaux, Apr., '97.

to. As a rule one and a half quarts is quite a sufficient quantity either for hypodermoclysis or intravenous injections.

To make up for the liquid lost in purging, especially in the algid type, Lesage⁶ suggests subcutaneous injection of one ounce of the following, from three to six times daily:—

℞ Sod. chl., 2 drachms.
Aq. dest. steril., 1 quart.

Or Hayem's artificial serum:—

℞ Sod. sulph., 2 1/2 drachms.
Sod. chlor., 1 1/4 drachms.
Aq. dest. steril., 1 quart.

(See INFANTILE DIARRHŒA, page 255).

CHOLERA MORBUS.

Our Associate Editor, Dr. Nathan S. Davis, of Chicago, outlines in the following words the remedial measures to be resorted to:—

Treatment.—In the beginning of attacks of active cholera morbus, the leading objects to be gained by treatment, are to allay the morbid sensitiveness of the mucous membrane of the alimentary canal; to restore the general tonicity of the tissue and of the vasomotor nervous system; to promote the natural secretions, especially of the liver and kidneys; and to properly regulate the diet, drinks, and general sanitary surroundings of the patient. In the treatment of all this class of patients, it is of the greatest importance to secure for them a constant supply of fresh pure air. The most complete ventilation possible, and rigid cleanliness should be enforced day and night. To accomplish this is often a very difficult task among all the classes of people who occupy small or overcrowded lodging rooms on the narrower and less cleanly streets of our large cities. But a firm insistence upon keeping whatever

doors and windows there are freely open during hot summer nights as well as during the day, and the prompt removal of all gastric and intestinal discharges from the room, will accomplish much in this direction. To overcome the morbid sensitiveness of the mucous membrane, restore the tonicity of the nervous and vascular systems, and increase natural secretions, we need the combined or coincident use of anodynes, antiseptics, and tonics. In the early stage of active vomiting and diarrhœa the following formula has been used with the most satisfactory results:—

℞ Acidi carbolici, 7 1/2 grains.
Glycerinæ, 5 drachms.
Tinct. opii camphorata, 2 ounces.
Aqua cinnamoni, 2 1/2 ounces.

M. To an adult give one teaspoonful immediately after each paroxysm of vomiting until the paroxysms cease to recur.

But if we follow the inclination of the patients and nurses and wait for the patient to "rest a little" and the stomach to become "settled" we simply allow time enough for the stomach to regain ability to vomit with another supply of serous exudation, and now the dose of medicine is likely to be ejected as soon as swallowed. The teaspoonful of medicine may be given in half a tablespoonful of water; and in treating young children the dose should be apportioned to the age of the child. In addition to the above, small doses of calomel may be given every half hour or hour until the discharges become less watery and show some indications of the presence of bile. Sinapisms of mustard may be applied over the epigastrium and to the back over the spine, but should be allowed to remain only long enough to redden the skin without vesi-

⁶ Med. Rec., Nov. 27, '97.

amount of fat put into the baby's stomach, but the way it is put and how it can be absorbed. The milk is manipulated too much in the laboratories. One obtains by this method 3 or 4 per cent. of fat, but the fat is not in a fine emulsion, and clinically the fat, in order to be thoroughly assimilated, must be in a fine emulsion. With reference to the diluent, in many cases the cereals were favored. Many babies, not assimilating the casein, will improve by using a thin barley-water that has been malted.

Henry Koplik⁶ says that for home-modification of milk, Soxhlet, of Munich, had devised a formula which proved of value in most cases. This can be made by diluting the milk coming from a very good dairy, $\frac{1}{2}$ with water, for a child below nine months, and adding to each 8 ounces a teaspoonful of sugar of milk, dissolving the sugar of milk first in the 4 ounces of water, and then adding the 4 ounces of milk. Below three months, the children should be given 3 ounces in each bottle, and 8 bottles in 24 hours.

L. Duncan Bulkley⁶ admits that countless lives have been lost through the use of proprietary foods. When mother's milk is not obtainable, cows' or other animals' milk is the next best food; there are, however, certain indications when the giving of wheat-products is indicated, as in those whose nutrition is at fault, as in a bad recurrent eczema.

A certain quantity of ordinary coarse wheat-grits is taken and placed in a pint of cold water in a china receptacle. This is placed on the fire in the evening and allowed to cook for two hours, when it is set aside, covered, and allowed to stand all night. In the morning it will be found to be jellified. Water is now added and it is again placed on the fire for two hours more, when it is turned out upon

a sieve and rubbed through until the soft portions are made to pass through, leaving behind the hard coating of the wheat in the sieve. This product should be prepared fresh every day. For young infants, about 1 drachm should be administered and the quantity increased with the age and weight of the infant. The reasons why this is a food suitable for infants are simple ones: all the soluble elements are extracted, including the starches and phosphates, and the indigestible matter is left behind in the sieve. There is, too, an advantage in the slow process of preparation, covering about fifteen hours, which results in the partial digestion of the mass.

The advantages are as follow: The whole wheat represents the nearest approach to complete food after milk. It provides a soluble, partially-digested, and thoroughly-cooked material. If prepared right it is uniform. It is a cheap food, and easily prepared by the poor. The whole wheat should be employed.

George Carpenter⁷ remarks that the natural food of an infant is, of course, the mother's milk, and all healthy mothers should feed their infants from the breast. But just as it is so desirable that a healthy mother should nurse her offspring, so it is most undesirable that a mother suffering from serious organic disease should attempt to perform that function, phthisis and any tuberculous affection of the mammary glands being a contra-indication. Those in whom there is a strong family history of insanity had better not nurse their children.

If the child be too weak and puny to take the breast, then it will be necessary

⁶ N. Y. Med. Jour., Apr. 23, '98.

⁶ Med. Review of Reviews, June 25, '98.

⁷ Edinburgh Med. Jour., July, '98.

to feed it at frequent intervals by teaspoonfuls, either using a sterilized mixture of cream and whey or a peptonized humanized cows' milk, or a modification of Gaertner's milk. Cream-and-whey mixture is prepared as follows:—

R Ordinary cream (20 per cent.), 1 ounce.

Whey, 2 ounces.

Sugar of milk, 1 drachm.

This should be sterilized for half an hour.

The whey is prepared by adding Fairchild's essence of pepsin to fresh milk, which is to be gently warmed. When the milk is set, break up the curd quite small, allow it to settle, and then carefully strain it through several folds of muslin, finally squeezing the contained curd so as to extract all the moisture. In the event of a mother being unable to nurse her infant, and in the absence of a wet-nurse, there is but one answer to the question of what artificial food can be recommended, and that is "cows' milk."

Cows' milk differs enormously in composition according to the health of the animal, the time it has been in milk, and the quality of the food; hence the advisability of taking the milk from a mixed herd of cattle rather than from one cow. Milk, as soon as it is received at the house, should be placed in a clean vessel, filtered through absorbent cotton-wool to remove gross impurities, and then sterilized to free it from the various germs with which it is contaminated. In the poorer neighborhoods we frequently have to rely upon an unsterilized cows' milk, suitably diluted with water, so as to reduce the quantity of the proteids. A mixture of 1 part milk and 2 parts sugar-water, the latter of which is made by adding 1 ounce of milk-sugar to a pint of water, approaches

human milk in composition, but it is deficient in fat. The deficiency in fat can be remedied by adding 1 drachm of 20-per-cent. cream to every ounce of the milk mixture, and failing this $\frac{1}{6}$ of the quantity of cream, in the shape of cod-liver-oil, should be given to the child. This mixture should be boiled for half an hour, and when it is cool a $\frac{1}{20}$ part of lime-water added to it makes the fluid slightly alkaline. Ordinary sugar may be used instead of milk-sugar, if the proper proportion is observed. In private practice Rotch's cream mixture will be found reliable and very satisfactory. It is a near approach to human milk in chemical composition. For its preparation the ingredients are to be mixed, as soon as they are received from the dairyman, in the following proportions:—

R Cream (20 per cent.), $1\frac{1}{2}$ ounces.

Milk, 1 ounce.

Water, 5 ounces.

Lime-water (to be added after sterilization), $\frac{1}{2}$ ounce.

Milk-sugar, $3\frac{3}{8}$ drachms.

It has been the custom in cases of summer diarrhoea to withhold all milk and feed temporarily on albumin-water, but Rotch, who was the pioneer of the Walker-Gordon milk establishments of the leading American cities, has found that if the fat is reduced to 1.5 per cent., the proteids to 0.25 to 0.75 per cent., and the sugar to 4 or 5 per cent., the milk agrees very well. For prematurely-born infants the Gaertner milk can readily be adapted to their digestive capacities by reducing the proteids to 0.5 per cent., or perhaps a trifle less.

The Gaertner milk is not sterilized to last indefinitely—it should not be kept for a long time. Full sterilization makes the milk brown from caramelization of the sugar; and changes take place in

be considered. Children of gouty parents frequently suffer from atonic bowels. The employment of sterilized milk also favors constipation, and the administration of farinaceous articles too early in life, by provoking dyspeptic troubles, may either result in diarrhœa or constipation; the question of modifying the diet, therefore, is of very great importance. If the child is old enough to receive vegetable substances, it should be given Graham bread, which leaves a large residue, the ordinary vegetables, and from time to time, mild laxative substances, such as manna or cascara; frequent exercise in the open air is also a necessity. The addition of a little sugar to the diet, if the child is fed on sterilized milk, will prevent the constipating effect of the latter. Massage of the abdomen gently applied for a number of minutes morning and night, the skin being rendered oily, is also a method not to be forgotten; during this procedure the fingers should knead the intestines as much as possible. Castor-oil and magnesia, while active, tend to produce constipation to a greater degree after their effects have passed off, although calcined magnesia is a useful substance to overcome dyspepsia and to move the bowels in certain cases. In other instances glycerin suppositories and rectal injections produce the best results. The quantity of liquid which should be used as an injection varies, but ordinarily one or two ounces in young children is sufficient, and if the bowel is not active, cold, instead of warm water may be used, and the action of the injection increased by the addition of 4 to 6 drachms of oil of sweet almonds.

Southworth¹⁸ thinks it is the duty of the physician to frequently inspect and break up the stools, and sometimes even

to have them subjected to chemical analysis. In the case of the nursing infant, the percentage of fat and the total quantity of breast-milk secreted are the chief factors. Too high a proteid percentage seems to tend to looseness of the bowels, and colic. If the breast-milk is deficient, the mother should take more fluid, preferably cows' milk, cocoa, or thin gruels made from corn-meal or well-cooked flour. The quantity of fat can be increased by giving extracts of malt to the mother. When the infant frequently regurgitates small quantities of milk after nursing, it may usually be taken as an indication that the percentage of fat is too high. Good results sometimes follow in the case of suckling infants who are constipated, by giving them a little cream before each nursing. In artificial fed infants constipation most commonly arises from the use of a diet which is deficient in fat or proteid or contains an excess of proteid. Children fed on condensed milk are often constipated in spite of the large quantity of cane-sugar in this milk. The reason of this will usually be found to be the low percentage of fat and proteid when the condensed milk is diluted in the usual manner. The remedy may be found in the addition of a teaspoonful of cream for each teaspoonful of condensed milk. When the constipation is the result of giving ordinary milk greatly diluted, cream of "tip milk" may be added. The author lays special emphasis on the importance of beginning in the first few months of life to teach the infant regular habits regarding the evacuation of the bowels, and also calls attention to the desirability of providing a proper support for the feet of older children while sitting on the closet or comode,

¹⁸ Phila. Med. Jour., May 21, '98.

for, unless this is done, the abdominal muscles cannot be brought properly into action. Massage of the abdomen, he says, will be found a valuable adjunct to other treatment in constipation. He does not favor the use of enemata except as a temporary measure.

Jacobi¹⁴ says that he sees no reason why simple enemata of saline solution, without the addition of such irritant as glycerin or soap, should not be continued steadily for months or even years. Indeed, in that form of constipation which he had described under the name "congenital" or "anatomical" constipation, this was the only treatment. While undoubtedly rachitic babies often became constipated as early as the first two or three months of life, they are not constipated from birth, if suckled by a healthy mother, and this fact serves to differentiate between the form of constipation and that congenital variety due to the imperfect development of the sigmoid flexure of the bowel. The latter usually lasts from 1 to 6 years.

Carriere¹⁵ recommends massage for constipation in infants under twelve months that cannot be relieved by regulation of diet. It should be given only in the morning, for not more than ten minutes, and the movements made in a circle about the umbilicus; pressure should be light and exerted especially in the right iliac region. For babies more than a year old he employs the finger tips exclusively and the movements are confined to the course of the large intestine, from right to left.

As regards constipation in adults, Boas¹⁶ considers the purgative and alkaline mineral waters objectionable. In place of them he employs enemata and prescribes various disinfectants and drugs calculated to strengthen the muscular action of the intestine. He regards

strychnine and resorcin as particularly effective.

Ewald¹⁷ argues that as few purgatives as possible should be used. The methods employed should be: dietetic; physico-mechanical; and medicinal. Such foods should be used as are known to increase peristalsis. Suitable massage is of the greatest value in many cases, but it sometimes fails, and the same may be said of electricity. The usual position taken up in defæcation is not the one best adapted for emptying the rectum. In the use of clysters, particular attention should be given to the anal part of the syringe. It should be made of vulcanized caoutchouc, and about 30 to 40 centimetres long. The disadvantage of clysters is that ultimately small quantities of water do not suffice, and then large amounts must be used; the large intestine may thus become overdistended and the injections useless. Regular attempts at defæcation with slight pressure should be made. An efficient rhubarb preparation is often very useful, but it may become necessary for the patient to have constant recourse to it. Calomel is especially valuable in children. Castor-oil is not suited for constant use. In some cases, with a certain diagnosis of fæcal tumor, good results are had by combining croton- with castor-oil. Large injections of olive-oil may very properly be recommended. Sometimes sedative and antispasmodic remedies are required where constipation is of the spastic type.

Rosenheim¹⁸ states if constipation is due to atonicity pure and simple, the

¹⁴ *Ibid.*

¹⁵ *Practitioner*; N. C. Med. Jour., Dec. 5, '97.

¹⁶ *Gaz. Hebd. de Méd. et de Chir.*, Jan 13, '98.

¹⁷ *Berl. klin. Woch.*, Mar., '97.

¹⁸ *Inter. Clinics*, vol. iv, '97.

reasonable to believe that this favorable condition for their growth allows them to acquire a certain amount of virulence. Granting this conception of the pathogenesis of chronic intestinal indigestion to be true, it can scarcely be denied that sufficient toxins or toxalbumins are produced in the intestinal canal which, becoming absorbed, give rise to a group of symptoms which we recognize as an intoxication of autoinfection.

Treatment.—Taka-dias-tase in doses of from 3 to 5 grains, according to William Armstrong,¹² has been given with or immediately after meals, in amylaceous dyspepsia and the form of gout which seems to be caused by that defect, with excellent results. Flatulence and acidity are greatly diminished, there is much less strain put upon the comparatively weak intestinal digestive processes, and the gouty symptoms are much relieved.

James Taylor¹³ remarks that in cases of amylaceous dyspepsia in which excessive fermentation of the products of starchy proteolysis is occurring in the small intestine, it is obvious that to eliminate carbohydrates from the food and to strictly limit the diet of the patient to purely albuminous substances for about a fortnight would bring relief. In doing so, however, the importance of starch as an article of diet is overlooked. In addition, such albuminous diet is irksome and monotonous, and the patient loses weight. It would be better to lessen the quantity of amylaceous substances than to forbid the use of them altogether. The principal seat of trouble being in the intestine, and the use of antiseptics being attended with no advantage, some method of digesting amylaceous substances in the stomach should be sought for, so that they may be absorbed by that organ and little or none reach the intestine, and can only be carried out

effectually by means of a powerful diastatic ferment. Many malt-extracts contain much saccharin matter. This is mostly in the form of grape-sugar, which, when eaten in large quantities, tends to undergo fermentation in the stomach. If a quantity of predigested food is ingested, there arises the risk that it will be rapidly absorbed into the blood and be rapidly excreted without having imparted any of its nutritive qualities to the tissues. In addition, too rapid absorption into the blood not only disturbs the equilibrium of that fluid, but also produces disturbance in the liver functions. This explains the reason of the biliousness produced in some persons by the use of malt-extracts. Taka-dias-tase gives the best results in these cases. The dose is 2 1/2 grains in tablet or powder, to be given at the beginning of a meal. The starchy elements of the food should be properly cooked, for diastase cannot act on the starch-granule unless the cellulose investment has been ruptured by the process of cooking. Fluids used at meal-times should not be sipped with the meal, the rule being to eat first and drink afterward. Tea should be weak and used sparingly, and should, like other fluids, be taken after meals.

In answer to the question of the treatment of dyspeptics Einhorn¹⁴ says that medicaments are not of much value, the main factor lying in proper nourishment. First, it is of importance to increase the quantity of nourishment; second, to provide a sufficient variety of foods. In order to improve nutrition, two articles of food, bread and butter, play an important part. Bread, besides having nutritive value, serves the purpose of in-

¹² *Liverpool Medico-Chir. Jour.*, Jan., '97.

¹³ *Lancet*, Aug. 7, '97.

¹⁴ *Public Health Journal*, Mar., '98.

creasing the flow of saliva during mastication. Butter not only improves the taste of various kinds of foods, but is also in itself a nutriment of the greatest importance. The change to coarser varieties of food should be accomplished gradually. At first, milk, gruels, and thickened soups, eggs beaten up in milk may be given, later can be added *zweiback* or crackers with butter, then meat, the white of chicken, and well-scraped beef; next, mashed potatoes; and still later wheaten bread, baked or boiled potatoes, soft-boiled or scrambled eggs, and oysters; at last vegetables and fruits. An essential point is punctuality in the taking of meals. In most cases, in which a gain in weight is of great importance, frequent meals (five or six daily) will be advisable.

[The most interesting feature of the above is that pertaining to the influence of bread on digestion. Europeans eat much more bread during their meals than Americans; hence the much greater prevalence of dyspepsia among the latter, through insufficient salivary secretion. ED.]

Verhaegen¹⁵ observes that drugs have singularly lost their importance. Bitters—such as *condurango*, *calumba*, quinine, or *nux vomica*—may be given from a quarter- to a half- hour before meals; they should be discontinued when the appetite has returned. Hydrochloric acid in dilute solution may be taken a half-hour after meals. Pepsin is superfluous; the stomach secretes sufficient. Washing out the stomach with warm water every day, or every second or third day, according to the case, is of the greatest service.

ECZEMA.

Symptoms.—L. Duncan Bulkley states, in a recent analysis¹⁶ of 10,000 miscella-

neous skin cases in the writer's private practice, that 32.01 per cent. suffered with eczema. Neurotic eczema is frequently observed in infancy in connection with cutting of the teeth; in childhood it is less common; its most frequent time of occurrence is between 20 and 55 years of age. Various forms or phases of nerve-disturbance are seen in connection with neurotic eczema, and they may be considered under the following heads: (1) *neurasthenia*, or nerve-exhaustion; (2) nervous and mental shock; (3) reflex phenomena: (a) of internal origin, and (b) peripheral; (4) *neuroses*: (a) structural and (b) functional.

The eruption is apt to come first upon the hands and face, less commonly on the feet. But from its starting-point it may extend over large surfaces. Neurotic eczema upon the hands is very apt to exhibit vesicles, but on the adult face the eruption is quite as likely to assume and maintain the erythematous form, with vesicles, and often without moisture, unless scratched. The groups of lesions have a tendency to be pretty sharply defined, in more or less herpetic patches, which may present mainly solid papules or, when torn, a raw surface. It is intensely itchy, and the spasms of itching are sometimes fearful and utterly uncontrollable.

According to Jamison,¹⁷ there is a remarkably-obstinate form of chronic eczema, which attacks the palms, and, though more rarely, the soles sometimes also. The disease commonly takes its origin in the centre of one palm, though it is generally not long until both are implicated. There are hard scaly patches of infiltrated skin, involving more or

¹⁵ *L'Œuvre Médico-Chir.*; *Lancet*, Mar. 5, '98.

¹⁶ *Jour. Amer. Med. Assoc.*, April 16, '98.

¹⁷ *Edinburgh Med. Jour.*, Jan., '98.

of diseases with bladder manifestations in which no pathological condition exists in the bladder, usually diagnosed as cystitis. The bladder symptoms in such are the result of nervous reflexes, principally from an affected posterior urethra, but they may also come from the anterior urethra, from the ureter, and even from the kidney. The diagnosis is often extremely difficult and depends finally on careful local examination. In cases of false cystitis the symptoms are always aggravated by intravesical medication.

Prophylaxis.—Noble²⁸ emphasizes the fact that all who have devoted special attention to characterization as a cause of cystitis know that there is no better method of causing cystitis than the attempt to perform this without full antiseptic precautions. The catheter should never be passed without the exposure and cleansing of the meatus urinarius. The cleansing should be done with bichloride solution 1 to 1000, and a sterilized catheter passed under the guidance of the eye. Because of the facility with which glass catheters can be sterilized by boiling, these are to be preferred. If a soft rubber catheter is used, this should be boiled five minutes immediately before being used. A glass catheter can be passed without any lubricating material, if it is dipped in the bichloride solution and introduced wet. If a lubricant is used, the best is boro-glyceride solution.

Etiology.—Shrady²⁹ queries how the bacillus coli communis gets into the bladder, and whether it always causes cystitis when there. Interesting observations on urine in disease reveal its presence where no cystitis exists. Escherich explains the greater frequency of coli-cystitis in girls upon purely anatomical grounds, assuming that infection may come from without, and by means of direct contact of

excrementitious products with the mucous surfaces of the vagina and urethra; others think there may be direct migration of bacilli through the walls of the intestine into the bladder. Denys thinks this possible only when there is a lesion and hyperæmia of the intestine, but Czerny, Escherich, and Trumpp have found the bacillus coli communis in the blood in cases of enteritis. Work on the cadaver has also demonstrated its presence in various organs of the body. A general coli-bacillus poisoning is always possible, for the virulence of this particular micro-organism, under favoring conditions, has not been exaggerated.

Hutinel³⁰ observed five cases of cystitis, due to the colon bacillus, in girls between two and ten years of age, who had for a long time suffered from mild mucoid vulvo-vaginitis, and recently suffered from a more or less severe intestinal inflammation. The characteristic symptoms were mucous discharge from vulva, diarrhœa, or tenesmus alvi, painful bladder tenesmus, urine small in amount, containing pus, albumin, colon bacilli in pure culture, irregular remittent fever of short duration. It was not the vulvo-vaginitis but the enteritis which played the principal rôle in exciting the cystitis. The bacillus coli communis may also invade the bladder, during an enteritis follicularis, and grow there without setting up a cystitis. Trumpp has reported eight such cases of bacteriuria in girls and five in boys.

Rovsing³¹ in classifying the different forms of cystitis, indicates his preference for the following:—

1. Catarrhal or non-suppurative cysti-

²⁸ Gaillard's Med. Jour., Apr., '98.

²⁹ Med. Rec., Mar. 20, '97.

³⁰ La Presse Méd., Nov. 18, '96.

³¹ Ann. d. Mal. d. Org. Génito-Urin., Oct. to Dec., '97.

tis, caused by organisms which are devoid of pyogenic properties, and do not attack the mucous membrane of the bladder directly, but which decompose the urine.

2. Suppurative cystitis, of which there are two main groups: (1) an ammoniacal form, in which pyogenic organisms are concerned, capable of decomposing the urine; and (2) an acid form, for the most part due to the tubercle bacillus.

Ammoniacal group includes cases in which the colon bacillus co-exists with other microbes which decompose the urine, and cases in which the latter are alone present. Ammoniacal cystitis is usually the result of the introduction of instruments by the urethra. The acid form of suppurative cystitis is much less common than the alkaline; they are rarely the sequel of the passage of instruments. The microbes concerned are the tubercle bacillus, typhoid bacillus, the gonococcus, the bacterium coli, the streptococcus pyogenes. They gain access to the bladder from the posterior urethra, or by the ureter from the kidney.

Walker³² has frequently observed cases of cystitis after frequent catheterism in women. It seemed that the cause of the cystitis was injuries produced in passing the catheter, rather than the use of a dirty instrument, because in all of those cases the catheters were sterilized and kept with great care in an antiseptic solution and used principally by the nurse. In spite of all the care exercised as to asepsis, etc., he has seen cases of cystitis develop. It seems to him, therefore, that it was on account of traumatism rather than anything else, for in these cases not only had the cleanliness of the catheters been looked after, but the meatus had been carefully cleansed before their introduction.

Walls³³ relates two cases of exfoliating cystitis. Both originated as a consequence of retroversion of the gravid uterus. The first patient came under treatment when four months pregnant. The second presented herself after abortion had taken place.

Treatment.—From an experience of 116 cases, Guyon³⁴ emphasizes the immense importance of general therapeutics, which applied to all forms of cystitis. There is not the danger of irritating the bladder in tuberculous cystitis that there is in other forms, hence the diet should be abundant and extremely nourishing. Creasote ranks first in the medicines. Local treatment must be very cautiously applied, as the bladder is exceedingly sensitive. But the local treatment is extremely important and should be commenced from the first, confining it to very weak solutions. He found boric acid, etc., injurious in any form, and restricts himself to sublimate and guaiacol. The sublimate is beneficial even in very weak solutions and in merely suspected cases. Four out of thirty-three patients treated with it were completely cured, five much improved, and eight moderately. He begins with a 1-to-5000 solution, raising this to 1-to-3000, and reducing the strength at the slightest evidence of irritation. Thirty to forty drops are enough; fifty the maximum. The general treatment occupies months.

Elliott³⁵ states that urotropin has given him unqualified satisfaction in cystitis. It is non-toxic and non-irritating and is readily soluble in water. It possesses decided diuretic properties and under its influence uric acid and sedi-

³² N. Y. Med. Jour., Mar. 19, '98.

³³ Brit. Med. Jour., May 1, '97.

³⁴ Jour. Amer. Med. Assoc., July 3, '97.

³⁵ No. Amer. Pract., Oct., '97.

mentary urates previously present no longer appear. A single dose of $7\frac{1}{2}$ grains exerts an influence lasting over thirteen hours, while after a dose of 15 grains its effects last for twenty-seven hours. Urotropin increases the acidity of the urine. No ill effects upon the kidneys have been observed. The dose ranges from 15 to 90 grains in the twenty-four hours, it seldom being necessary to employ a larger daily amount than 20 grains. For antiseptic purposes he found its exhibition in 5-grain capsules four times a day to be most satisfactory. When taken in this form the patient is always advised to drink a full glass of water after each capsule.

Nicolaier³⁶ says, in daily amounts not exceeding fifteen grains, urotropin is well borne for a long time, and no disagreeable symptoms arise from its use.

Under the influence of the drug there very rapidly occurs a marked change in the composition of the urine in cases of cystitis with ammoniacal decomposition. First the ammoniacal smell diminishes in intensity and soon entirely disappears; then the reaction of the urine becomes acid again. The urine becomes clearer, the triple-phosphate and urate-of-ammonium crystals disappear, and the serious troubles so frequently caused by the abnormal constitution of the urine cease. The amount of pus corpuscles also diminishes, and may entirely disappear.

Urotropin does not act by killing the micro-organisms and spores that cause the ammoniacal fermentation, but merely prevents their development.

In acute cystitis a teaspoonful of the following mixture in water given every three hours is valuable³⁷:—

- R Fluid extract buchu, 1 ounce.
- Citrate of potassium, 3 drachms.
- Sweet spirit of nitre, 4 drachms.
- Syrup of lemon, to make 3 ounces.

Banzet³⁸ declares every patient must be fully nourished. In prescribing internal remedies, due regard must be paid to their effect upon the appetite and digestive functions. Creasote must be given in very small doses, and over a long period. Should definite improvement not result from general treatment, or should the symptoms be such as to forbid delay, recourse must be had to local applications. The drug which yields the best results is corrosive sublimate, in aqueous solution, beginning with a dilution of 1 in 10,000, and gradually increasing the strength to 1 in 5000, this to be instilled in small quantity every day or every second day. Guaiacol, although very soothing to the sensitive mucous membrane, is distinctly inferior to sublimate.

Harovitz³⁹ counsels for the treatment in gonorrhœal cystitis, rest in bed, avoidance of all local irritations, administration of morphine, codeine rectal suppositories, or of extract of hyoscyamus, use of local warm baths, forbidding of spices, alcohol, and carbonated waters, and the giving of laxatives. Priapism can be avoided by the bromides, with camphor of cannabis Indica.

For the cystitis itself, salol, in three doses of 15 grains each, sodium salicylate or sodium benzoate is useful. If the digestion is excellent, oil of santal, cubeb, kava-kava, balsam of copaiva, balsam of Peru, and oil of turpentine may be employed. Of importance is the use of infusions, as of uva ursi, quite likely on account of their diluting the urine.

³⁶ Aertzliche Praktiker, No. 12, '97.

³⁷ Med. News, Sept. 18, '97.

³⁸ Ann. d. Mal. d. Org. Génito-Urin., June, '97.

³⁹ Centralb. f. d. Gesamte Therapie, H. 2, S. 65, '97.

Colin⁴⁰ highly recommends the following (Picot's) formula:—

R̄ Guaiacol, 5 parts.

Iodoform, 1 part.

Sterilized olive-oil, 100 parts.

M. From ten to twenty drops are injected into the bladder once or twice a day.

Bloom⁴¹ observes that, as far as results go, the technique of vesical irrigation is most important. The apparatus consists of a soft rubber catheter joined to a piece of rubber tubing by a short piece of glass tube. A small glass funnel is connected with the other end of the rubber tube. Sterilization is most important before using it and immediately afterwards. After carefully cleansing the meatus urinarius as well as its immediate surroundings, the catheter, well lubricated with sterilized vaselin, is introduced, the urine drawn off while the instrument is still in place, and the tubing filled with the column of urine, thus preventing the entrance of air; the funnel is filled with the irrigating solution and gradually raised, distending the bladder slowly. The quantity used will depend upon the vesical irritability. The maximum quantity should not exceed five ounces. The funnel is then lowered and the bladder evacuated in the same careful manner.

This procedure is repeated till the washings come away perfectly clear and clean. The temperature of the solution should be about 100° or 105° F. It may be used once a day at first, or at most twice a day, and after a few days the frequency should be lessened.

Escat⁴² states that when cystitis proves rebellious to instillations, injections, or washings, curettage through the urethra is indicated. This should not be employed when there is kidney disease, or

when the inflammation has penetrated deeply into the bladder-walls. If the inflammation has extended beyond the trigonum, suprapubic cystotomy, followed by curettage, is indicated.

Garceau⁴³ states that, in general, the curable affections are those which are superficial in character, while those resisting treatment are the cases of long-standing in which the inflammation has involved the interstitial tissue and muscles; in the latter, local treatment is often of little avail. The only treatment thus far which gives relief and sometimes cures, is cystotomy; but the disagreeable features of this operation are so marked that one hesitates before recommending it. In the superficial forms of inflammation, by the cystoscope, the lesions can be treated locally and the applications made directly and exclusively to the diseased areas.

With a No. 8 (millimetre) cystoscope and a good light the female bladder may be inspected with ease and satisfaction. With this small-sized cystoscope previous dilation of the urethra is quite unnecessary in the great majority of women. The examination, in the knee-chest posture, may be made practically painless if one or two crystals of pure cocaine are inserted in the meatus urinarius and left there a few moments before the cystoscope is introduced. After the first examination it will be possible to dispense with cocainization, for the passage of the instrument causes no more pain than the passage of the female catheter.

DERMATITIS VENENATA.

Etiology.—Our Associate Editor Dr.

⁴⁰ N. Y. Med. Jour., Apr. 9, '98.

⁴¹ Polyclinic, May 22, '97.

⁴² Ann. des Mal. des Org. Génito-Urin., p. 132, Feb., '97.

⁴³ Boston Med. and Surg. Jour., Oct. 28, '97.

Rohé reviews the dermal disorders which a large number of plants, some of them used medicinally, occasion when brought in contact with the skin. Among the above the most important are various species of *rhus*: namely, *Rhus toxicodendron*, or poison-ivy; *Rhus venenata*, or poison sumach; and *Rhus diversiloba*, or poison oak. The latter, according to Dr. White, is a native of the Pacific coast, although the common *Rhus toxicodendron* is also vulgarly known as poison oak.

The common belief that an eruption due to *rhus* poisoning is liable to recur annually without renewed exposure is not based upon sufficiently definite evidence. The fact that the dermatitis recurs at about the same time of year is to be attributed to a new exposure. Dr. White, however, mentions a number of cases in which a different eruption followed—after an interval—the attack of *rhus* poisoning.

The chemical nature of the poison of the various species of *rhus* is somewhat obscure, but experimental researches indicate that it is a volatile acid. A number of cases are on record, showing that handling dried specimens of the poisonous plants may produce an eruption. The time after exposure when the eruption appears differs in different persons. The shortest is, perhaps, four or five hours, while in some cases it may be as many days before the effects of the poison on the skin are manifested. That the poison before volatilization may be transferred from one portion of the body to another—as from the hands to the face or to the genitals—is beyond question.

Pfaff⁴⁴ says it was hitherto accepted that the toxicodendric acid described by Maisch was the active principle of *rhus* poisoning, and found to be merely ace-

tic acid. A poisonous oil, however, termed toxicodendrol is, in the toxic element, a very intense skin irritant, even in minute quantity. Like cantharides, it can produce nephritis and fatty degeneration of the kidneys, and it is probable that fatal results of *rhus* poisoning may have been due to renal complications. It is non-volatile; actual contact appears necessary. The activity of toxicodendrol in minutest traces may make it possible for a few pollen grains of poison-ivy to cause skin eruption; and the few cases of action at a distance, which are so often quoted, may conceivably be thus explained.

The rational indication is to get rid of the poisonous oil which may be on the skin as quickly as possible; the parts should be well washed, and scrubbed with soap and water, or alcohol. Fatty preparations, being oil solvents, if used, tend but to spread the evil.

Symptoms.—When a person, susceptible to the poison of one of these species of *rhus*, touches the plant, or, in some cases, even comes within a short distance of the same, the skin shows signs of irritation manifested as follows: There may be redness, but more frequently the first objective sign is the eruption of groups of small vesicles, accompanied by swelling and intense itching. In consequence of the scratching set up, the vesicles are burst and exude an abundant serum. The swelling is sometimes very great, especially about the loose tissues of the face and the genital region. The eruption usually begins upon the hands, as these are the parts of the body most frequently brought in contact with the poison. From the hands it is generally transferred to the face, and next, in the male sex especially, to the genitals, be-

⁴⁴ Jour. Exp. Med., Mar., '97.

cause the face and genitals are the parts most frequently handled. The face and head are often so intensely swollen as to be almost unrecognizable. Sometimes the skin is very much reddened, and the exudation abundant. Excoriated patches are frequent. The itching varies from mild grades to the most severe intensity, but is generally a prominent symptom. It is said that death has followed the poison, but the testimony upon this point is rather vague.

Treatment.—Dr. Rohé considers that the most effective applications in the early stages of *rhus* poisoning are alkaline solutions, soap being especially useful on account of its detergent effect. By its early use, the greater portion of the poison can be removed, or its effects neutralized, before it has had time to penetrate the skin, and act as an irritant. Solutions of bicarbonate of soda, 1 ounce to the pint, and black-wash, usually relieve the itching promptly. Dr. Hardaway, of St. Louis, recommends very highly a lotion of zinc sulphate, $\frac{1}{2}$ drachm to a pint of water. Fluid extract of *grindelia robusta*, either full strength or diluted with water in various proportions, is highly lauded by Dr. Van Harlingen and others. When the vesicles have ruptured, drying or absorbent powders of starch, chalk, oxide of zinc, orris-root, lycopodium, etc., may be used with good effect. Astringent lotions, among which acetate of lead holds a high place, are especially useful when the eruption is fully developed.

Dr. James C. White, of Boston, recommends the following mixture:—

R Zinci oxidi, 4 drachms.
Acidi carbolici, 1 drachm.
Aquæ calcis, 1 pint.

This should be applied freely and repeatedly over the affected parts. It alle-

viates the intense itching, and hastens the involution of the inflammatory process. Internal remedies are unnecessary and useless.

INFANTILE DIARRHŒA.

Etiology.—Symes⁴⁵ says defective water supply appears to affect the older children over five years of age, but infants are swept away in hundreds by milk which is infected or contaminated. The greater number of fatal diarrhœas are doubtless due to artificial feeding. All organisms grow and flourish in milk.

In a study of thirteen cases Cumston⁴⁶ draws the following conclusions:—

1. The bacterium coli appears to be the pathogenic agent of the greater number of summer infantile diarrhœas.
2. This organism is the more often associated with the streptococcus pyogenes.
3. The virulence, more considerable than in the intestine of a healthy child, is almost always in direct relation to the condition of the child at the time the culture is taken and does not appear to be proportional to the ulterior gravity of the case.
4. The mobility of the bacterium coli is in general proportional to its virulence. The jumping movement, nevertheless, does not correspond to an exalted virulence in comparison with the cases in which the mobility was very considerable without presenting these jumping movements.
5. The virulence of the bacterium coli found in blood and other organs is identical to that of the bacterium coli

⁴⁵ Brit. Med. Jour., May 8, '97.

⁴⁶ Inter. Med. Mag., Feb., '97.

taken from the intestine of the same individual.

Robinson⁴⁷ gives as his conviction, based upon a careful observation of facts, that, while by far the greatest proportion of cases of children's diarrhœas is due to two great causes, unsuitable food and infection by pathogenic bacteria, there are a number of cases where dentition is the sole etiological factor.

Pathology.—Baginsky⁴⁸ concludes that the diarrhœal disorders of childhood arising under the influence of high summer temperature are at first only functional in character, but in their further course profound anatomical alterations take place in the walls of the stomach and bowels, which may range between catarrh and necrosis of the mucous membrane. These changes are attributable not to specific bacteria, but to the ordinary saprophytic micro-organisms of the intestinal tract that assume especial virulence. The invasion of other organs by these bacteria is not unusual. The most profound disturbances are occasioned by the fermentative products of bacterial activity, toxic or non-toxic. Under the influence of this intoxication from the intestinal tract the resistance of the whole organism to the invasion of other pathogenic micro-organisms is diminished, as is manifested by numerous complications.

Gilbert,⁴⁹ in quoting from a recent report of the Health Board of New York City, shows that there was for one year 2789 deaths from diarrhœal affections, and of these deaths, 92 per cent. occurred in children less than two years of age.

Treatment.—Watu⁵⁰ advocates the treatment of infantile diarrhœa by a regimen of boiled water, cooled to a suitable temperature, and given in small quantities every hour or half-hour, or as

thirst demands, to the exclusion of all food, for eight, twelve, or even twenty-four hours.

Dessau⁵¹ is of the opinion that in an acute attack of summer diarrhœa in a child under two years of age all albuminous and starchy foods should be withheld at once. Instead, toast-water, made by laying in a large bowl two pieces of stale white bread toasted brown on both sides, pouring on boiling water till covered, adding a pinch of salt and allowing to stand till cool, the clear water being then poured off into a fruit-jar and kept cool by ice, is excellent. Barley-water, made by boiling a handful of pearl barley in a pint of water for one hour or more, a pinch of salt being added, can also be prepared, and after it is cool the supernatant liquid poured off for use. From one to three tablespoonfuls of either of these foods can be given every hour or two for forty-eight hours if necessary. Alcoholic stimulants may be added if necessary. These drinks should always be given cold. When vomiting and stools have improved, which usually occurs within forty-eight hours, nursing may be resumed at intervals of either two, three, or four hours. If sterilized milk be used it should not be for longer than the summer months, on account of the tendency to produce rachitis. A mixture of cows' milk, diluted one-fourth with water and containing a little milk-sugar and a pinch of salt, is to be preferred. The prepared milk is poured into a double-boiler of agate-ware, and the water in the outer vessel is allowed to boil for fifteen minutes. The inner ves-

⁴⁷ N. Y. Med. Jour., Aug. 28, '97.

⁴⁸ Archiv f. Kinderheilk., B. 22, H. 3-6, '97.

⁴⁹ Amer. Pract. and News, Oct. 16, '97.

⁵⁰ Thèse de Paris, No. 40, vol. ii, '96-'97.

⁵¹ Clinical Recorder, '97.

sel is then rapidly cooled, and the contents poured into a well-scalded tight fruit-jar, and kept by the ice until required for use. The entire quantity required for use during the day can thus be prepared at once. After each feeding, the child's mouth should be wiped out with a bit of absorbent cotton soaked in a saturated solution of boric acid. Plenty of water that has been boiled and cooled should be given.

Gilbert⁵² contends that milk should be excluded for at least three days. The white of a fresh egg beaten up with crushed ice and a pinch of salt is most acceptable to the stomach and is sufficient nourishment. Pure sterilized water may be given freely. Soups, meat broths, and starchy mixtures should be rigidly excluded. A most potent adjunct in the management of protracted summer diarrhoea is intestinal irrigation with the normal salt solution, 1 drachm of sodium chloride to the pint of warm water. With a No. 18 soft rubber catheter attached to the nozzle of a fountain syringe filled with the salt solution, one can easily distend the colon. The hips of the child should be slightly elevated. The irrigation should be continued until the water returns clear and free from faecal matter.

Epstein, of Germany, in the summer of last year practiced the subcutaneous injection of a salt solution in acute digestive disorders and cholera infantum. He reports prompt improvement and quick cures in cases that were apparently hopeless. Epstein used 2 $\frac{1}{2}$ drachms of the normal salt solution at a time hypodermically.

Robinson⁵³ makes a plea for the more general employment of intestinal irrigation and rectal alimentation in the grave diarrhoeas of children, giving the result obtained in one of his cases: Child, 8

months old, suffering from diarrhoea; temperature, 106.6° F.; pulse, impossible to count; respiration very shallow and feeble. Irrigation was followed by the discharge of large amount of faeces, over two gallons of starch-water being used before the return water came out clear. The child was then put into a hot mustard bath, cold water being poured from a distance of about three feet on his head and forehead. The bath lasted six minutes, after which the following mixture well beaten up was injected into the rectum:—

One egg, 1 tablespoonful of cream, $\frac{1}{2}$ teaspoonful of brandy, teaspoonful of beef juice, and a teaspoonful of a mixture containing potassium bromide, 3 grains; chloral-hydrate, 1 grain; antipyrine, 1 grain; and mint-water, 1 drachm. The buttocks were pressed together for about five minutes; the child put to bed with hot-water bottles to his feet and cold-water compresses to his head, and he immediately fell asleep. Within three quarters of an hour the temperature fell from 106.6° to 102.5° F. The child, at the end of a week, was perfectly well. The rectal alimentation was continued with slight changes every four hours, for four days, then peptonized milk was carefully tried by mouth.

During the hot weather of last summer, Bowles⁵⁴ treated between sixty and seventy cases of "summer diarrhoea" in children ranging in age from a few weeks to three years. The cases were in every way such as are met with in the crowded tenements of large cities during the heated term. He used lactic acid in every case. The maximum dose was 1 $\frac{1}{4}$ grains given every hour. The re-

⁵² Amer. Pract. and News, Oct. 17, '97.

⁵³ N. Y. Med. Jour., Dec. 23, '97.

⁵⁴ Indian Lancet, Apr. 1, '97.

sult was the disappearance of all symptoms in from twenty-four to forty-eight hours. The only medicine given besides the lactic acid was an initial dose of calomel in cases where it was indicated.

Neville⁵⁵ has found nothing so valuable as listerine combined with chalk mixture or bismuth, in the summer diseases of children.

Comby⁵⁶ has given tannin and its derivatives, tannigen and tannalbin, a prolonged trial in the treatment of infantile diarrhœa. Powdered tannin is unsatisfactory. Tannigen and tannalbin are compounds which are broken up in the intestine with the liberation of nascent tannin; this has the advantage that the stomach escapes the astringent action of pure tannin. He has given tannigen and tannalbin with very satisfactory results in the simple non-infective diarrhœa of children. They are not adapted for cases of cholera infantum. They may be given for days or weeks without untoward results in quantities of 8 grains to 23 grains in the day, according to the age of the child, quantity being divided into three or four doses.

Fenwick⁵⁷ uses resorcin, having found it highly satisfactory in a large number of cases of intestinal dyspepsia in infants and young children.

Mikhnevitch,⁵⁸ having tried the salicylate of bismuth in 50 cases of diarrhœa in infants under two years of age, reports that only 2 died. The following formula is recommended:—

℞ Bismuthi salicylici, 24 grains.
Gummi arabici, 1 drachm.
Sacch. albi, 1 1/2 drachms.
Terendo adde aq. dest., 2 ounces.
Fiat lac, tum adde aq. dest., 4 ounces.

M. D. S. The bottle to be kept in cold water or ice, and to be shaken well

before use. One or two teaspoonfuls three to six times daily. In cases of offensive diarrhœa the administration should be preceded by a dose of castor-oil. In acute cases the remedy is useless, but in all of a week's standing or longer its effects are excellent.

Tompkins⁵⁹ speaks highly of the following as an intestinal antiseptic in children:—

℞ Calomel, 2 grains.
Sulphocarbolate of zinc, 3 grains.
Subnitrate of bismuth, 2 drachms.
Pepsin, 1/2 drachm.

Sufficient for twelve powders. Three per diem in a child of 1 year.

Crandall⁶⁰ presents, as follows, the indications and contra-indications for the use of opium in the diarrhœas of young children. It is contra-indicated: (1) In the first stages of acute diarrhœa, before the intestinal canal has been freed from decomposing matter. (2) When the passages are infrequent and of bad odor. (3) When there is a high temperature or cerebral symptoms are present. (4) When its use is followed by elevation of temperature or the passages become more offensive. It is indicated: (1) When the passages are frequent, with pain. (2) When the passages are large and watery. (3) In dysenteric diarrhœa, together with castor-oil or a saline. (4) In late stages, with small, frequent, nagging passages. (5) When the passages consist largely of undigested food, and the bowels act as soon as food is taken into the stomach.

⁵⁵ Med. Brief, May, '98.

⁵⁶ La Méd. Moderne, July 28, '97.

⁵⁷ Brit. Med. Jour.; Med. Rec., Jan. 16, '97.

⁵⁸ Med. Obozrenije; Indian Lancet, Aug. 1, '97.

⁵⁹ Med. Rec., Mar. 13, '97.

⁶⁰ Archives of Ped.; Med. and Surg. Rep., Sept. 25, '97.

TETANUS.

Etiology.—Dr. Burot⁶¹ gives an interesting account of an epidemic of tetanus on board a hospital ship in Madagascar. Only seven deaths had occurred out of over one thousand patients during three months, when suddenly four patients died from tetanus. One had had quinine injected under the skin for malarial fever. An abscess formed at the seat of one of the punctures. Three or four days later symptoms of tetanus set in, and death followed in twenty hours. The second case died in eighteen hours. He had also been injected with quinine on shore beforehand. The third, a soldier, developed an abscess over the chest after a similar hypodermic injection, made on board, and died in thirty-six hours after tetanic symptoms commenced. The fourth case died in sixteen hours. It was not known whether he had had injections or not before admission.

In 1884 four deaths from tetanus followed hypodermic injections, during a previous campaign.

Kassowitz, at the Wiener medicinischer Club,⁶² showed a child with latent tetany and rickets, in whom complete recovery followed the administration of phosphorus. The gastro-intestinal origin, according to the author, is unproved; he has never seen tetany occur with chronic gastro-intestinal catarrh in the absence of rickets, and the seasonable variations of tetany are exactly the opposite of those of gastro-intestinal disorders, tetany being most frequent in the winter. The frequency of tetany does, however, vary directly with the frequency of rickets. The close relationship of these two conditions is explained by the rachitic affection of the skull, which produces hyperæmia not only of the cranial bones, but also of the meninges and cor-

tex, and so causes undue excitability of the motor centres and a tendency to convulsive movement. The exciting cause of the tetanic spasm is some noxious substance entering by the respiratory tract from the foul air in the dwellings of the poor.

Lopez⁶³ reports two cases of tetany of gastric origin. The first is that of a young man, aged 20, who had for three years suffered from painful dyspepsia, with vomiting, foetid eructations, and extreme emaciation, but without trace of albumin in the urine. The patient was treated by lavage of the stomach. In spite of this, he was suddenly seized one morning with tetanic contraction of the masseter muscles, the muscles of the face, and of the pharynx. This contraction extended to the forearms, and to the hands and fingers, all of which were strongly flexed. He was treated by the injection of morphine, and by chloral enemata. The symptoms passed off in two hours.

The second case was that of a young man, aged 18, who had also suffered from dyspepsia, and had been treated by regular washing out of the stomach. At 2 A.M. one morning he was seized with dyspnoea, with rigidity of the muscles of the thorax, and with painful contraction of the forearms and of the hands. He was treated by enemata of chloral, and his muscles were rubbed with an ointment of belladonna. Recovery followed.

Ortega's case⁶⁴ was that of a man, aged 40, who had been troubled with painful dyspepsia, acidity, foetid eructations, vomiting, and emaciation for many years. Irrigation of the stomach was at first

⁶¹ Bull. Acad. de Méd., Paris, Feb. 2, '97.

⁶² Neurol. Centralb., Mar., '97.

⁶³ Arch. de Neurol., Jan., '97.

⁶⁴ *Ibid.*

very painful, and was followed by spasmodic contraction of the œsophagus, and a feeling of suffocation. After a meal, consisting of smoked fish and red wine, followed by irrigation of the stomach, he was seized with cramp in the fingers, and the forearms. Next morning there was extreme distress, rigidity of the muscles of the thorax, flexion of the forearm, and clenching of the hands. The patient died the same evening.

The great majority of cases are undoubtedly due to the absorption of toxins from the stomach. This absorption appears to be in some way facilitated by the process of lavage. [Exfoliation of the epithelium of the pharynx and œsophagus during the use of the instruments may afford an entrance to the toxic organism. ED.]

Berlizheimer⁶⁵ adds to the small number of cases of gastric tetany already reported, the case of a man, aged 35 years, afflicted with dropsy of the gall-bladder and dilated stomach. From time to time tetaniform convulsions occurred. Trousseau's phenomenon was easily produced. There was trismus. The facial sign was not distinct. The stomach-contents gave a negative test for ptomaines. Injection of the contents in animals was negative. Autopsy showed abscess of the pancreas and compression of the ductus choledochus, with dilatation of the stomach. An infectious origin of the tetany (there was peritonitis) is excluded.

A case of tetanus neonatorum is reported by Dayus.⁶⁶ The presentation was occipito-posterior, requiring delivery with the forceps. The mother made an excellent recovery. On the fourth day the child refused the breast; upon examination it was found that the mouth could scarcely be opened. On the following day the muscles were in a state of tetanic spasm, the child often becom-

ing rigid. The appearance of *risus sardonius* was especially marked. The child died on the seventh day from exhaustion consequent upon the tetanic spasm. The umbilicus, after the cord had come off on the fifth day, was slightly inflamed around the edge. The scissors used at birth to divide the cord were perfectly clean.

Six cases of puerperal tetanus have been observed by Rubeska.⁶⁷ There was operative interference with the labor in all of the cases. Chills, fever, and foetid lochia were all present. The symptoms came on in from six to nineteen days after the delivery, being uniformly fatal in from two to three days. All of the reported cases, twenty-one in number, have been collected, showing that in one case only did recovery take place.

Diagnosis.—Romme⁶⁸ reserves the diagnosis of tetany for those cases, and those alone, where a spontaneous characteristic contracture occurs, and deplors the habit which has arisen of describing laryngismus stridulus—Chvostek's symptom and Trousseau's phenomenon—as being symptomatic of tetany. He describes cases in which such symptoms are grouped as latent tetany; and he states that these cases are never transformed into true tetany. He maintains that it is only by holding strictly to this point of view that the clinical individuality of tetany as a disease can be maintained. He considers tetany a disease resembling in many respects epilepsy, and having its origin in various predisposing causes, arising frequently in rickety children, without being a manifestation of that disease; frequently in children suffering

⁶⁵ Berl. klin. Woch., No. 36, '97.

⁶⁶ Brit. Med. Jour., June 4, '98.

⁶⁷ Archiv f. Gynec., vol. liv, No. 1, '98.

⁶⁸ Gaz. Hebdom. de Méd., Jan. 24, '97.

from gastro-intestinal trouble, and occasionally at the commencement of the infectious fevers and acute illnesses. He believes that the toxins of ptomaines, resulting from these various conditions, have a functional rather than an organic effect on the central and peripheral nervous system, producing the characteristic spasm.

Pathology.—Walter K. Hunter⁶⁹ reports studies of the spinal cord in tetanus in three cases. In the cord of the first, a lad of 12 years, he found dilatation of the vessels, especially in the gray matter, and minute hæmorrhages. There were no signs of round-cell infiltration. Regarding the ganglion-cells the only change noticed was that the plasma stained more diffusely and showed none of the differentiation of its substance. The second patient had been successfully treated with antitoxin, but developed exfoliative dermatitis, to which he succumbed in five days, fifteen days after the onset of the tetanic convulsions. No hæmorrhages were found, and the hyperæmia was scarcely more marked than in a normal cord. The ganglion-cells presented an appearance similar to that of the first. The third case was that of a child of 4 years, that had died in spite of an injection of antitoxin. The bacillus tetani was cultivated from the wound. The cord, including the ganglion-cells, was normal. From these cases the author concludes that the hyperæmia is probably of the same nature as that seen in the other organs, and results from the spasms of the muscles of respiration. Its absence in the third case is difficult to explain; possibly the child died from syncope rather than from asphyxia.

He looks upon the changes in the ganglion-cells as early signs of degeneration, the result of the toxin.

Pitfield⁷⁰ states that although it is gen-

erally thought that the action of the toxin is upon the cord, the higher cerebral centres are never directly affected. No post-mortem lesion has been discoverable in the cord in tetanus until recently, when, in common with other poisons, Marinesco⁷¹ describes softening of the gray matter found in animals killed by tetanus. The poison is, no doubt, a direct irritant to the cord.

Clinically a typical attack of tetanus begins in the muscles of the jaws and face, even if the lesion be remote—say in the foot. A few exceptions to this clinical rule have been observed. Toxin can be recovered from the urine in cases of tetanus, showing that it circulates freely. Most of the toxin remains in the tissues near the wound; sufficient to kill escapes, however, since excision of an infecting wound one hour after it is made will not save the animal (Kitasato).

Marie⁷² confirms the result of others with regard to the passage of the toxin to the nervous system, directly along nerves. He found that a certain dose of the toxin injected into the substance of an exposed nerve, the puncture afterwards being closed, might produce tetanus, while no result followed the injection of the same quantity into the muscles after a portion of the nerve in connection with the part had been removed.

Treatment.—Engelman⁷³ has collected 18 instances of sero-therapy in tetanus; in these death resulted 7 times. He concludes that both Tizzoni's and Behring's tetanus-antitoxins favorably influence the course of the disease. They are harmless even in large doses. The se-

⁶⁹ Brit. Med. Jour., Aug. 7, '97.

⁷⁰ Ther. Gaz., Mar., '97.

⁷¹ Compt. Rend. Biologie, July 4, '96.

⁷² Annal. de l'Inst. Past., July, '97.

⁷³ Munch. med. Woch., No. 34, S. 938, '97.

verer the symptoms the earlier antitoxins should be used.

Lambert⁷⁴ gives a mortality for all cases of tetanus treated without antitoxin, of 60 per cent., and a 30-per-cent. mortality for all cases treated with antitoxin.

Goodrich⁷⁵ gives the mortality in 113 cases treated by antitoxin and of a like number treated by antispasmodics, at about 63 per cent., but calls attention to the fact that fatal cases treated without antitoxin are not reported, while those treated with antitoxin usually are.

Webber⁷⁶ has collected twenty-four cases of tetanus treated by antitoxin, of which twelve recovered and twelve died. According to the author the results are much better in the less violent cases with a long incubation period than in rapid cases. A case reported by Turner⁷⁷ from the Seamen's Hospital bears this out; and in this case also chloral-hydrate seemed to have more effect in controlling the spasms than the antitoxin. Chalmers⁷⁸ reports recovery in a chronic case, and Jacob⁷⁹ another. Altogether the results in this disease are not so brilliant as one had hoped.

This sustains the view advanced by the Bristol Medico-Chirurg. Jour., March, '97: Serum-treatment in tetanus seems to have made no progress; cases injected after the appearance of the symptoms have died in the usual course, if they were at all severe.

Nocard⁸⁰ divides his subject into: (1) Curative measures. When tetanus has declared itself the antitoxin serum is without effect; it cannot prevent the fatal termination, whatever may be its antitoxic power or the dose injected. But in these cases it should be used, for under its use the recovery takes place more speedily, the crises are less frequent and intense, and the convalescence is shorter.

(2) Preventive measures: antitoxic serum injected in small dose at the time of the suspicious injury, or even a short time after it, prevents the onset of tetanus. The dose should be larger when it is administered late, and then it is better to give an intravenous than a subcutaneous injection.

Höfling⁸¹ reports a case of traumatic tetanus which was treated with antitoxin and recovered. A lad, aged 17, had the terminal phalanx of his little finger crushed, and about a week later the disease began with pains in the neck. The symptoms soon became aggravated, and five days after the onset he was unable to open his mouth more than a few millimetres. Eight days after the onset 75 grains of dry antitoxin were dissolved in 1 1/2 ounces of sterilized water below 40° C., and injected. Slight improvement noted. Two days later there was great difficulty of breathing owing to spasm of the diaphragm. A second injection of antitoxin was given. There was considerable improvement by the next day, and from this time the patient steadily got well. No other remedy was given in this case.

Maestro⁸² applied the thyroid treatment to tetany with some success. The thyroid gland was given raw or slightly cooked, and the dose, small to begin with, was carefully increased to 30 grains a day. Although only three cases were tried, the results seemed definite enough to allow the following conclusions to be

⁷⁴ Annals of Surg., Dec., '97.

⁷⁵ *Ibid.*

⁷⁶ Lancet, '97; Pract., Dec., '97.

⁷⁷ *Ibid.*

⁷⁸ *Ibid.*

⁷⁹ Deutsche med. Woch., '97.

⁸⁰ La Méd. Moderne, No. 71, p. 566, '97.

⁸¹ Deutsche med. Woch., Apr. 1, '97.

⁸² Lancet, p. 334, Jan. 30, '97.

made: The thyroid treatment is well borne by children, and the digestive functions and diuresis are not notably influenced by it, and it is only in certain cases that it is necessary to suspend the treatment from time to time. In idiopathic tetany the administration of thyroid gland was found to diminish the intensity and the frequency of the attacks and shorten the duration of the disease; while at the same time this treatment is not opposed to the symptomatic treatment, as it does not present any incompatibility with the methods ordinarily employed.

VOMITING OF PREGNANCY.

Symptoms.—Ordinarily, says Pozzi,⁸³ the vomiting of pregnancy is a comparatively insignificant affair. It begins shortly after conception, lasts from one to four months, and is easily controlled, or passes away without treatment. It occurs before and after eating, and the rejected matter is chiefly mucus, or mucus mixed with the food that has been ingested. The patient loses little flesh or strength. Again it may pass into an uncontrollable form, which at first is difficult of differentiation. Usually constant nausea and salivation are then present. The ejected material consists of mucus, food, or bile, and the vomiting may be either painless or painful. There are remissions permitting the ingestion of food; but later this becomes impossible, and then loss of flesh and physical and mental depression occur. This marks the beginning of the second period in which all the former symptoms are intensified, and constant fever and vomiting are added. The third period is recognized by the development of cerebral symptoms; the vomiting ceases, there are delirium, hallucinations, neuralgias, and finally coma and death.

Pathology.—Pozzi says that it may be concluded that no constant pathological lesion is demonstrable in hyperemesis gravidarum; pregnancy is the predisposing cause; but in most cases the exciting cause cannot be discovered. In these cases pregnancy must be regarded as also being the chief cause, either on account of some abnormal course—twin gestation, hydramnios—or as occurring in a person of high nervous temperament.

Temple⁸⁴ believes that the pernicious form of vomiting is invariably accompanied by some pathological condition that may yet be discovered post-mortem, if looked for. The large majority of medical men ascribe the pathogenesis to reflex phenomena originating in conditions present in connection with the pregnant uterus. Nervous temperament and hysteria are possibly not infrequent factors. Hedra's toxic theory has many adherents, while others follow Tumas, who believes he has located a vomiting centre in the medulla in close relation to the centre that presides over the generative organs; this centre shares in the reflex irritation of the generative centre, and gives rise to efferent impulses along the pneumogastrics, which result in persistent nausea and vomiting.

Giles⁸⁵ analyzed the records of 300 cases in the General Lying-In London, and found that in 33 per cent. there was no vomiting during the first three months. Vomiting in the later months appeared to be closely associated with hydramnion, twins, or an unusually large child. Among primiparæ there was a close and constant relation between the sickness and previous dysmenorrhœa. He believes the vomiting

⁸³ Ther. Woch., No. 37, '97.

⁸⁴ Dom. Med. Monthly, Sept., '97.

⁸⁵ Canada Jour. Med. and Surg., Sept., '97.

to be due to a combination of factors, viz.: exalted nervous tension; the outlet for this nervous tension being by the vagus; the enlarging uterus serving as a course of peripheral irritation. There are also two distinct forms of hyperemesis: one being associated with organic disease complicated by pregnancy; the other dependent upon the pregnancy solely.

Three cases of intractable vomiting and hydatidiform mole have recently been observed by Bue, of Lille.⁸⁶ The first case was that of a V-para aged 30; previous pregnancies normal, with vomiting during the first four months. Vomiting set in at the commencement of this pregnancy, more severely than formerly, so that now no food was retained; she also had some hæmorrhages, of which little description could be obtained. She was emaciated and anæmic; complained of incessant vomiting with epigastric pain; temperature, 103°, pulse, 120. Labor occurred spontaneously next day, with expulsion of the placenta, with myxomatous chorionic villi. She made a quick recovery. The second case was that of a V-para aged 26. The duration of pregnancy could not be ascertained, as she became pregnant during lactation. Hæmorrhage and vomiting of all food came on at the same time, and continued more or less severely for six months, when labor supervened and a vesicular mole was expelled of four pounds weight. The third case was a primipara, in her fourth month of pregnancy. The vomiting was accompanied by pyalism, or rather alternated with it. The uterus was as high as the umbilicus, and palpation revealed no foetal parts. Neither cardiac sounds nor souffle could be heard. The woman was markedly pale and emaciated. The uterus was emptied, curetted, and

plugged, the vomiting ceasing the next day. The patient made a good recovery. Persistent vomiting in a pregnant woman, especially if associated with hæmorrhages, should make one suspect hydatidiform mole. The writer advocates the free use of the curette, especially if the case can be got early enough to avoid the risk of the uterine wall being penetrated by the cystic growths.

Treatment.—In cases in which the exciting cause is discovered, remarks Pozzi,⁸⁷ we may expect relief by removing this cause, whether it be ulceration, cervical stenosis, or malposition. If due to a reflex neurosis, it is, perhaps, best treated by potassium iodide, though counter-irritation, vesicants to epigastrium, emetics, laxatives, aromatics, alkalies, and antispasmodics may also demand a place. As a sedative, opium, or its alkaloid,—ether, by mouth, by rectum, or hypodermically,—is often available; belladonna to cervix is often effectual; and cocaine will, perhaps, be satisfactory when all other medicaments fail. Gautier observed that a weak descending galvanic current, applied for fifteen minutes to half an hour, with the negative pole at the navel and the positive between the insertions of the sternocleido-mastoid muscle, induced a sedative effect upon the sympathetic, vagus, and phrenic nerves, but the ascending current with the positive pole in the region of the stomach will induce vomiting again. Tridone, who upholds the pathological contention of Tumas, that the vomiting is purely due to impulses originating in a nerve of the reproductive tract and transmitted reflexly through the sympathetic to the vomiting

⁸⁶ *Presse Méd. Belge*, July, '97.

⁸⁷ *Ther. Woch.*, No. 37, '97.

centre in the cord, suggests attempt to break the circuit by paralyzing the genital nerves by means of an hypodermic injection in the epigastric region of a 1-per-cent. solution of cocaine. This, doubtless, is the best method whereby to secure a decided impression on the nervous system; in fact, refrigeration of spine and the use of bromides and chloral are merely with the view of diminishing nerve-irritability. Giacosti, too, claims that the action of cocaine is similar to that of curare on motor nerve-endings and that the influence extends peripherally, and Reclus says that in mixed nerves cocaine first paralyzes the sensory fibres without previous excitation, and this prevents reflex irritation. To overcome the vasoconstrictor action of the cocaine, nitroglycerin may be added to the solution.

Among the empirical agents recommended for this condition, Pozzi numbers, in order of value, hydrocyanic acid, potassium cyanide, cherry-laurel water, tincture of iodine, potassium iodide, the bromides, calomel, and nux vomica. Cerium oxalate, in doses of from 3 to 5 grains, is often a most satisfactory remedy; both ether and ethyl-chloride, applied in form of spray to either the spine or the epigastrium, have recently been recommended. Finally when all other measures fail, it is proper to induce abortion; but this should be a last resort, only when loss of strength and flesh make absolute rest imperative; when fainting spells occur; and when high and constant elevation of temperature exists.

Gardner⁸⁸ has seen dilation of the cervix relieved very promptly in some cases; in others within a few days. As regards the ultimate procedure of emptying the uterus, he thinks the general tendency is to delay too long the opera-

tion, which in itself is not without danger, especially in patients whose vitality is very low from inanition.

Mauray,⁸⁹ when the patient shows signs of exhaustion as manifested by rise of pulse to 115 or 120, and the vomit becomes dark brown or blackish, feels constrained to induce abortion without delay. This should be done under anæsthesia in most cases.

Hanks⁹⁰ thinks every case must be treated on its individual merits. The indications are to quiet nerve-irritability, use suitable medicaments, feed judiciously by mouth or rectum, and allay all outside irritating conditions. The stomach should be thoroughly washed out, if the gastric juice is defective and deficient. He would suggest, as a general rule for pregnancy of two or three months, to dilate and deliver the ovum under anæsthesia; for pregnancies of four to eight months, to fill the lower zone of the uterus with iodoform gauze, leaving the internal os well packed.

Jewett⁹¹ believes that chloral and the bromides are the most useful remedies for subduing the reflex disturbance if administered per rectum in maximum doses of 120 grains daily. Locally he has found satisfaction in the application of cocaine, combined with Copeman's method. Evacuation of the uterus is often too long delayed.

Cameron⁹² holds that no precise rule can be formulated as regards treatment, but the good results that sometimes follow local measures suggest that sufficient attention has not been paid thereto.

McDonald⁹³ has observed that blister-

⁸⁸ Brit. Med. Jour., Oct. 23, '97.

⁸⁹ *Ibid.*

⁹⁰ Dom. Med. Monthly, Sept., '97.

⁹¹ Can. Pract., Sept., '97.

⁹² Montreal Med. Jour., Sept., '97.

⁹³ *Ibid.*

ing the cervical vertebræ, often recommended, is generally useless and only adds to the discomforts of the patient. Unmarried women are not often afflicted. Limited sexual intercourse or absolute abstinence should be enjoined. Pathological vomiting is not the vomiting of pregnancy but vomiting in pregnancy.

Ingluvin in doses of 5 to 15 grains three or four times a day is frequently followed by marked success in controlling the vomiting.

Gallois⁹⁴ has employed oxygen water with very great success in the treatment of the vomiting of pregnancy. Inhalations of oxygen are also useful. The oxygen water employed contains ten volumes of the gas, and is administered in the dose of one teaspoonful to the ounce, diluted with an equal quantity of water; to be taken in half to one teaspoonful doses at a time.

⁹⁴ Jour. des Pract., Mar. 20, '97.

Cyclopædia of Current literature.

ALOPECIA.

Etiology.—The common theory that baldness is due to the wearing of heavy head-dresses has long been held as correct, but it is, probably, erroneous. Again, although women, as a rule, wear light head-dresses, yet they nearly always wear a thick mat of hair, which must keep the scalp as warm as a heavy cap, and this during summer and winter; yet it is rare to find a woman with a bald head; this does not refer to baldness due to disease.

The following may be a clue to the true theory of baldness: a farmer had a horse to exhibit at a fair and, to add to his appearance, braided the tail, turned it up on itself, and secured it with a rubber band placed about six inches from the root. This was left on for a few days, and the result was that in the course of a few weeks nearly all the hair came out of the tail. The constriction cut off nutrition, and the follicles were starved, the hair eventually falling out. The blood-supply to the scalp is conveyed by the frontal, temporal, and occipital arteries, situated just where a tight hat would press on them and bring about a

gradual starvation of the hair-follicles. A woman, on the other hand, wears her hat resting lightly on top of her head, bringing no pressure whatever on the arteries, and thus escapes baldness. The maximum of hat-pressure in a man comes on the frontal arteries, and in consequence we find baldness generally commences on the regions supplied by those vessels.

Prophylaxis.—If the foregoing conclusions are true, men must, henceforth, in order to escape this affliction, wear their hats on the back of the head or make hat-makers study anatomy. Black (Therap. Gaz., Feb., '98).

AMMONIA SALTS IN SUCKLINGS.

The administration of alkalies lessens the amount of ammonia in the urine of sucklings suffering from gastro-intestinal affections, and an increased secretion of ammonia is due to increase in the amount of acids in the circulation. After giving nurslings, with disturbance of the stomach and bowels, ammonia carbonate, the total amount of nitrogen and urea was very much increased, while the ammonia was not. The increase in

urea was manifestly not due to increased tissue-destruction, as the phosphates were not in the least augmented. Hence it may reasonably be concluded that in infants with gastro-intestinal maladies there is no loss of power to transform ammonia into urea, which is further proof that the excess of ammonia in the urine indicates increased formation and excretion of acid products of metabolism. (Keller *Deut. med. Woch.*, Feb. 12, '98).

BURN, X-RAY.

Case in which, during the Rebellion, the knee had been crushed and had been painful ever since. Four years ago a floating cartilage was removed, which afforded relief for three years. Recently a sciagraph was taken, and three weeks after that manifestations of trouble were noted, the whole joint-area sloughing, followed by granulation, but it did not heal. Skin-grafting was apparently successful for four or five weeks, but the fifth week it sloughed, leaving a raw surface six and a half by five and a half inches, which was very painful. The general condition was very poor. February 7th the leg was amputated well above the granulating area. Good recovery followed. The joint showed about a dozen pieces of fractured bone united by fibrous bands. J. P. Tuttle (*Mathews's Quart. Jour. of Rect. and Gastro-Int. Dis.*, Apr., '98).

COCAINE-INEBRIETY.

Symptoms.—The increased frequency of cocaine cases in hospitals and asylums and courts of law shows that cocaine-inebriety has become a veritable disease. In most cases alcohol or opium and other drugs have been taken for their effects before cocaine was used. The peculiarity of cocaine is, that it produces appar-

ently nothing at first but a slight degree of exaltation and sense of comfort, and agreeable mental and bodily activity. There is no mental confusion, and the only symptom is good humor and general satisfaction. After a time the mental exaltation merges into slight hallucinations and delusions. The senses seem to be very acute, and thought flows with great rapidity, and impressions of the fear of danger begin—not sharply defined, as in the delirium from alcohol,—but vague and confused in form and object. Later, these increase and take on some form peculiar to the case. All this is associated with marked physical changes of the skin, eyes, heart, and digestion, with profuse sweating, and attacks of dyspnoea, and often with tonic and clonic convulsions, and great feebleness. Peculiar mental exaltation and delusions of strength are marked in all cases.

Morphine-takers can use large quantities of cocaine without any bad symptoms. Alcoholics are also able to bear large doses without danger. The cocaine-user takes large quantities, but in small doses frequently repeated. In common with opium and alcoholics, there is moral paralysis, untruthfulness, and low cunning, in order to conceal and explain the condition by other than the real causes.

Treatment.—The sudden removal of the drug is the first step, with sharp elimination through the skin, kidneys, and bowels. The continuous activity of the skin from hot air, sweating and baths is essential, and this should be kept up for a long time. Narcotics are dangerous and are seldom of any value. Infusion of cinchona bark is very valuable, and can be used for a long time. Arsenic appears to be the best of all the mineral tonics, and acids are also excellent.

Among foods, meats are to be used sparingly, at first. The patient should remain in bed or reclining at full length most of the time during active treatment. Muscular exercise by massage for an hour a day should be given, or a walk in the open air with an attendant, or a few moments' exercise with ropes and pulleys. Daily baths should be continued with regularity and care. Persistent watchfulness over all acts of the patient should be kept for six or eight weeks; then a rigid course of living and diet arranged, and its importance insisted upon, for a long period to come. T. D. Crothers (Phila. Med. Jour., May 28, '98).

DOUCHE, VAGINAL.

The indications for the hot water vaginal douche are chiefly in the treatment of chronic pelvic inflammations, and in no other manner will the good effects of the douche be realized, as by the strict observance of the following rules of Emmet:—

1. It should invariably be given with the patient lying on the back, with the shoulders low, the knees drawn up, and the hips elevated on a bed-pan or rubber sheet, so that the outlet of the vagina may be above every other part of it. Then the vagina will be kept continually overflowing while the douche is being given.

2. It should be given at least twice every day, morning and evening, and generally the length of each application should not be less than twenty minutes.

3. The temperature should be as high as the patient can endure without distress. It may be increased from day to day, from 100° or 105° to 115° or 120° F.

4. Its use, in the majority of cases, should be continued for weeks at least, and sometimes for months. Persever-

ance is of prime importance. E. C. Dudley (Phila. Med. Journal, June 18, '98).

EPILEPSY, PLUMBIC.

Case of a lad, aged 14, brought to the police-station in a fit. Half an hour previously, while returning from work he complained of feeling giddy, suddenly screamed out, and fell. The muscles were rigid, the teeth firmly clenched; the eyelids closed, the left more firmly than the right; eyeballs turned up, the pupils equal and of medium size; pulse regular and of fair tension; pallor of the cheeks and lips, and along the edge of the gums in both jaws a well-marked blue line; clothing smelt strongly of paint. He had been assisting his father, a painter, for the past six months; had been very energetic, and once or twice suffered from colic, for which his mother had given him salts. He had never suffered from "tremblings" or paralysis.

The patient was taken home, still unconscious, and seen again later in the evening; had involuntarily passed urine and fæces in the interval, was still unconscious and rigid, but inclined to sleep, curling himself up in bed; temperature 99.4°; pulse 88. The following morning he was quiet, but still comatose and rigid; had passed a restless night, screaming, grinding his teeth, and throwing himself about so that it was with difficulty he was kept in bed; temperature 100°; pulse 92.

Treatment.—Potassium bromide in 15-grain doses in water was ordered given every four hours; but administration by the mouth was extremely difficult, owing to the rigidity. In the afternoon, coma and rigidity continuing, the dose of the bromide was doubled, two drachms of syrup of chloral added, and employed as an enema; also chloroform inhalations given until the muscular

spasm was relieved. He was ordered fed by nutrient suppositories. At 10 P.M. the bromide and chloral injection was renewed, also the chloroform inhalations, until the muscles were completely relaxed; 2 grains of calomel given by placing on the back of the tongue, and the urine drawn off by a catheter. No albumin; temperature 101.4°; pulse, 100.

The patient was still comatose on the second morning, but the muscles were less rigid. He had again passed a restless night, but the nurse had succeeded in giving him 2 ounces of milk, and a dose of the bromide mixture by the mouth; temperature 101°; pulse 112. About 8 A.M. of the third day after the seizure he opened his eyes for the first time; thus he had exhibited *status epilepticus* for close upon sixty consecutive hours. All this day he lay quiet and dozed, taking no notice of anything, but accepting nourishment and medicine when offered. In the evening the temperature had fallen to 99.6°. The next morning he spoke for the first time; convalescence was now established, and he made an uninterrupted recovery. There was no subsequent optic neuritis or impairment of vision. He took iodide of potassium for four days before he was allowed to go out.

There can be no doubt that this was a case of lead poisoning, for there was no family history of epilepsy; he was a hard worker, and had been careless about keeping his person and clothes free from paint. Rowland (Brit. Med. Jour., April 16, '98).

ERYSIPELAS.

Treatment.—Iodol is valuable as an abortive of facial erysipelas, as proved in 25 cases. The remedy was dissolved in collodion and the 10-per-cent. solution painted over the affected part in a thick

layer extending a few centimetres beyond the limits of the erysipelas. The redness and induration disappeared and the pain was relieved soon after the application. The spread of the disease prevented and a rapid cure effected in all cases. In 25 cases of lymphangitis it was used also with similarly good results. Lobit (Bull. Gén. de Thérap., vol. cxxxv, p. 540, '98).

GASTRALGIA.

Treatment.—The following formula for gastralgia is recommended:—

R Codeinæ phosphatis, $\frac{1}{4}$ grain.
Bismuthi subnitratiss, 5 grains.
Sacchari lactis, 3 grains.

M. Sig.: To be taken every two hours. Ewald (Med. Rev. of Rev., May 25, '98).

GLAUCOMA.

Treatment.—Whenever it is desirable to reduce ocular tension, a 1-per-cent. solution of arecoline hydrobromide answers an excellent purpose. The instillation of a single drop gives rise to a burning sensation with lacrymation and blepharospasm; but these unpleasant results last no more than a minute; after them there are conjunctival hyperæmia with slight circumcorneal injection; but these, too, subside in a few minutes. At the end of two minutes clonic contractions of the iris occur, with diminution of the size of the pupil. The meiosis lasts for about half an hour at the utmost, and then the pupil gradually resumes its former size. The solution keeps well, retaining all its physiological properties for a year. Lavagna (Gaz. Hebdom. de Med. et de Chir., May 1, '98).

GONORRHOEA, SECONDARY.

Etiology of Complications.—It is generally supposed that gonorrhœal arthri-

tis, iritis, pericarditis, inflammation of the tendon-sheaths, etc., are caused by the entrance of toxins of the gonococcus into the circulation, and the possibility of the emigration of the gonococcus itself is generally overlooked. Affections of the calcaneum, inferior maxilla, tibia, and sterno-clavicular articulation are usually considered syphilitic, particularly if they yield to treatment with mercury and the iodides; and cures may be effected by mercurial treatment in cases of this character that have never had syphilis, and that are purely gonorrhoeal.

Treatment.—Inunction or the subcutaneous injection of corrosive sublimate in conjunction with baths at a temperature of 102° to 104° F. usually afford favorable results. The temperature of the rectum soon rises to the same degree as that of the bath, and the gonococcus is thereby destroyed by the rise in heat throughout the entire economy; but care must be had in the use of the bath if the patient has endocarditis. Immobilization and injection of iodoform-glycerin are to be recommended in articular affections. Gleet, when present, is preferably treated by medicated irrigations. Schuster (Jour. de Méd. de Paris, Jan., '98).

HEART DISORDERS.

Treatment.—In cardiac dropsy digitalis is the most useful drug, when appropriately employed, but when it does not afford relief, caffeine may be of valuable service. A patient had a greatly-enlarged heart with the impulse strongly marked and the apex-beat in the seventh space in the anterior axillary line; signs, also, of dilation of the aorta. At the apex was a loud and long systolic murmur, replacing the first sound and heard at the back; a soft systolic murmur was present in the aortic area, and

HERNIA, INFANTILE UMBILICAL.

subsequently was detected a diastolic murmur. The liver was greatly enlarged, extending down to within two inches of the umbilicus; pulse, 90 per minute, of "water-hammer" character; râles at the posterior bases of the lungs. Specific gravity of urine, 1024, and a cloud of albumin. Digitalis was without effect; strophanthus was even deleterious; but caffeine was remarkably successful. Tickell (Clin. Jour., Feb. 2, '98).

HERNIA, INFANTILE UMBILICAL.

Etiology.—It has been suggested that a short umbilical cord, and traction thereon within the uterus, might be a condition which predisposes to infantile umbilical hernia. In order, however, to establish this as a direct predisposing cause, the following facts must be ascertained: 1. That there was a pull on the umbilical cord during intra-uterine life. 2. That such traction does tend to produce a pouch of peritoneum. 3. That other undoubted causes of infantile hernia are not in strong evidence.

With regard to the first, it is by no means allowed by authorities that there is any traction whatever on the cord while the foetus is *in utero*; in fact, it is difficult to see how such could come about and how could it occur without very grave results to the child. A very short cord is not a very uncommon circumstance, but any untoward effect attributable to it must be rather rare. Again, traction upon the cord, or, rather, the stump of a cord, after birth in the dead subject does not tend to cause a finger-like pouch of peritoneum; in fact, peritoneum will not stretch or become displaced at all easily by an outward pull, nor to any extent by a single inward push, for to produce a hernial pouch it is necessary that a long series of repeated acts of straining should occur. This last

is exactly what takes place in an infant from crying, etc., and in addition the intra-abdominal pressure is usually greatly increased by the distension of the intestines with gas, the outcome of improper food, in the majority of instances. It may be added, that, in by far the larger number of instances of infantile umbilical hernia, the causes are not far to seek, and these are: a weak spot—the umbilical cicatrix; repeated straining efforts; continued increased intra-abdominal pressure.

Treatment.—In considering the management of these cases, it may be well to remember that in the early months of life strict attention should be paid to proper feeding; particularly in hand-fed infants this is of the utmost importance, and will often lead to a cure when such has been much delayed. It is very rare in an adult to see an instance of umbilical hernia which has persisted from early life; so that in most cases infantile umbilical hernia becomes cured, either spontaneously or with treatment. Eccles (Brit. Med. Jour., April 16, '98).

INSECT BITES.

Treatment.—In insect bites accompanied by inflammatory symptoms pure ichthyol applied with a camel's hair brush or ichthyol in the form of a 10-per-cent. gutta-percha plaster is recommended. Ottinger (Pediatrics, June 1, '98).

KIDNEY, MOVABLE.

Treatment.—Twenty-one cases of movable kidneys, more or less severe, many of them, as is usual, complicated by gastropsis and enteroposis, were treated without operation. Five of these were greatly improved by abdominal massage, exercises and the application of a pad and belt, and three of this num-

ber had continued free from their former marked symptoms up to the time of the report,—i.e., from two to five years. In 16 cases a rest-cure of from two to eight weeks was carried out in addition to frequent reposition of the displaced organ and mechanical support; in 1 of these cases complete failure resulted. Seven were lost sight of shortly after the treatment. The remaining 8 cases were either cured or markedly improved, the kidney remaining in normal position and all symptoms having disappeared. In nearly all there had been, previous to treatment, local pain and tenderness in the displaced kidney or in the right lumbar region, in addition to the usual nervous and dyspeptic symptoms. A careful search for this lesion will show that in a large number of persons, mostly women, the right kidney is displaced, without, in a majority of the cases, the presence of any local pain or tenderness, and often without the presence of any decided symptoms. Usually, however, the patient will be found to be nervous and to be a sufferer from derangement of both the gastric and intestinal digestion. The treatment by mechanical methods is important, as it avoids the risks of operation. Eccles (Lancet, Lond., Jan. 29, '98).

MEASLES.

Infection.—On the tenth day from birth a healthy female child began to be indisposed and to sneeze, and three days later a well-developed eruption of measles covered all the body; the eyes were congested, the eyelids swelled, and the tongue covered with a thick fur; there was a little cough. The eruption faded on the fifth or sixth day, and a good recovery was made. This seems to determine the incubation and invasion periods of measles with some exactness.

Henoch gives ten days for incubation and three to four for invasion, with whom Osler practically agrees, while Ashby and Wright point out that if inoculated the disease may need only seven or eight days for incubation. Douglas (Brit. Med. Jour., May 7, '98).

Diagnosis.—An early sign of measles consists in the appearance upon the mucous membrane of the lips, and on the inside of the cheeks, of minute bluish-white spots situated on a red base. They develop as early as seventy-two hours before the appearance of the usual characteristic eruption, and are not seen in any other of the exanthems. Koplik (Med. Record, April 9, '98).

Treatment.—**HYPERPYREXIA.**—A child, aged 16 months, suffering with the premonitory symptoms of measles, developed a temperature of 107° F., which was lowered to 103° by a tepid bath. Four days later the temperature again rose suddenly, this time to 110°, when the child was thought to be dying; it was unconscious, the pupils contracted, pulse feeble, lungs extremely congested; the rash had disappeared. After stripping and exposing on a bed, an enema of brandy and beef-tea was administered, and cold water cloths applied from head to feet, the latter being frequently renewed. This treatment was continued for three-fourths of an hour, when the temperature had fallen to 97° F. Now the child was rolled in warm blankets, and hot water bottles applied. Convulsions now appeared, and 10 grains of chloral and 15 grains of potassium bromide were given per rectum; also 2 grains of quinine and a mixture containing small doses of bromide ordered, every two hours. During the night there were several seizures, but good sleep was had in the intervals. For two days the rash, which had reappeared

after the cold pack, remained out, and the temperature varied between 102° and 104° F. The patient now rapidly convalesced, but with very free desquamation. Hunter (Brit. Med. Jour., April 30, '98).

Sequelæ.—Phlyctenular conjunctivitis with its array of dangerous complications, including ulceration of the cornea, is often witnessed in dispensaries as a sequel of measles. [This is mainly due to the fact that text-books on diseases of children do not lay sufficient stress upon the importance of keeping the lids aseptic by careful cleansing, and not using the eyes for reading, writing, etc., until the system has completely recovered from the debilitating influence of the disease, in which the ocular muscles take an active part. ED.]

NEPHRITIS, ACUTE.

Complications.—A case of nephritis in a boy aged 4 years complicated by mumps: a very rare condition.

Treatment.—Irrigation of the colon with a hot, saline solution is of great value in the management of such cases; where there is suppression this is a most efficient means of inducing the kidneys to resume functional activity. Kerley (Archives of Ped., Feb. 3, '98).

The following formula is also recommended:—

R. Mercury bichloride, $\frac{1}{3}$ grain.
Potassium iodide, 20 grains.
Syrup, 8 drachms.
Gentian infusion, 7 ounces.

M. A teaspoonful three times daily.
Black (Phila. Med. Jour., April 9, '98).

NYSTAGMUS, ACQUIRED.

Diagnosis.—Case of a clerk who complained of dimness of sight. Ophthalmoscopic examination discovered no abnormalities; there was no refractive

error, and with test-types he read $\frac{1}{2}$ with each eye; his vision was made worse by giving him weak convex glasses. His work was adding up figures in a large folio account-book in a well-lighted room. Elevating the eyes failed to reveal nystagmus. When a large book was put in front of him and he was made to assume the attitude adopted when at work, he raised his eyes, slowly examining the page from below upwards, when a vertical nystagmus was made manifest, increased as the eyes assumed a more strained position; he complained that what he looked at appeared to dance up and down, and that this was what he meant by dimness of sight. He did not think he saw quite as other people when the light was defective, and in the dark room with the gas turned down, he could only read "pearl" type, when the normal eye should be able to discern "brilliant."

Treatment.—The patient was advised to give up his work and obtain employment which would not involve like ocular fatigue.

Remarks.—The case is interesting as showing what little reliance can be placed on the unconfirmed complaints of patients, and also for the fact that in this case nystagmus only appeared when the patient put himself in the position ordinarily assumed by him when at his daily work. It seems not improbable that many cases of asthenopia, in which glasses are of no service, may be due to a "muscular asthenopia," or to a nystagmus that has never been detected. Percival (Lancet, April 2, '98).

PELVIC DRAINAGE.

The natural route whereby to drain the female pelvic cavity is through the vaginal incision, opening the *cul-de-sac* of Douglas. This operation in pelvic

inflammatory cases is generally accomplished extraperitoneally, and, should the peritoneal cavity be opened, but a small area is exposed. All abscesses below a line drawn from one anterior superior iliac spine to the other can be successfully treated through a vaginal incision. Ground (Amer. Jour. Surg. and Gynec., Jan., '98).

PHTHISIS, COUGH.

Treatment.—The following formula promptly checks the cough and diminishes the muco-purulent expectoration:—

R Fluid extract of hydrastis Canadensis,
Fluid extract of ergot, of each, 6 drachms.

Thirty to forty drops of this solution in a little water, 4 or 5 times a day after food. (Jour. de Méd. de Paris, Jan. 23, '98).

PNEUMONIA, ACUTE.

Treatment.—The ice-treatment is used in acute pneumonia for the purpose of modifying and abating the symptoms and morbid changes which accompany pulmonary inflammation. The ice is best applied in wide-mouthed rubber bags, the size of the area covered depending upon the extension of the inflammation. Except in very young infants, it is always good policy to apply two ice-bags, while four or five may be useful if the whole lung be involved.

The number of times that the ice should be renewed depends very much on the degree of fever. Ordinarily one filling lasts from two to three hours. It should be continued until the temperature comes to or near the normal point to remain there. So far as bringing about a collapse is concerned, there need

be but little apprehension, but in order to withdraw the ice without a subsequent reaction in the temperature, it is best to do this by degrees, that is by taking one or two of the bags away at a time, and watch the result. Ice may be applied in all cases when a pneumonia exists with high temperature, but should not be applied to old persons with subnormal temperature.

The application of one or two ice-bags to the head is of great value in case there is high fever, delirium, and restlessness.

Besides the local use of cold to the chest and head, strychnine is to be given by the mouth in doses ranging from $\frac{1}{24}$ to $\frac{1}{16}$ of a grain, four times a day; morphine hypodermically in quarter of a grain doses at night to produce sleep; quinine as a tonic; the salicylates in combination with salines in order to counteract any rheumatic complication that may be present; capsicum in large doses to relieve delirium, dry tongue and great depression; and freshly expressed beef juice, milk, etc., as nourishment. Oxygen by inhalation is to be given for the purpose of relieving dyspnoea and cyanosis, and if this fails, to relieve these symptoms a vein should be opened and the patient bled. T. J. Mays (Phila. Med. Jour., June, '98).

PNEUMONIA, CROUPOUS.

Abnormal Temperature.—A young man, 28 years of age, and of distinctly nervous temperament, was suffering with croupous pneumonia of the lower lobe of the left lung. The disease ran an ordinary course for five days, when, after a restless night, he became drowsy, and at 5 P.M. he was quite unconscious, breathing stertorously, and just recovering from a convulsive seizure; his temperature was 108.6°, and the pulse, 130. He died in half an hour without regain-

POISONING BY STRAMONIUM.

ing consciousness. The highest temperature hitherto recorded in acute pneumonia is 109.4° on the fourteenth day, and 108.9° on the seventh day. Ironside (Brit. Med. Jour., May 14, '98).

POISONING BY COAL-GAS.

Diagnosis.—A patient was found without pulse or respiratory movements, but with the jaws firmly set and foaming at the mouth. Artificial respiration, and cutaneous irritation was effective. The symptoms simulated rabies. Bolton (Lancet, March 19, '98).

POISONING BY STRAMONIUM.

Symptoms.—A woman, aged 53, took a teaspoonful of an anti-asthmatic powder by mistake. Three-quarters of an hour later a dry burning developed in the mouth, which the sipping of water did not, in the least, alleviate; sight became blurred, and there was a peculiar sensation of swelling in the eyes; everything lifted appeared abnormally heavy; from this time on for nearly six hours she remembered nothing. The case bore a remarkable resemblance to delirium tremens, but the face was markedly pale, not expressive of suspicion or anxiety, and there was no clammy perspiration, the skin on the contrary being perfectly dry. Her eyes were bright and staring, the pupils dilated, but not excessively, and absolutely insensible to light; flow of ideas very rapid, and she talked so very fast that only at times could it be understood what she said; mirthful delirium and hallucinations were very prominent, but illusions and delusions were markedly absent. There appeared to be inco-ordination of the lower extremities, but sensation was perfect; the power of deglutition at first seemed absent, but if she was prevented from returning what was in her mouth she swal-

lowed it; breathing quiet; pulse very rapid, thready, and compressible.

Treatment.—After using the stomach-pump freely, nitrate of amyl was administered, also hypodermic injections of digitalis; shortly afterward $\frac{1}{2}$ grain of pilocarpine was given subcutaneously after which recovery proceeded rapidly. Shaw (Brit. Med. Jour., April 23, '98).

RESPIRATION, INTRA-UTERINE.

While attending a woman in her fourth confinement, $5\frac{1}{2}$ hours after the membranes ruptured, during an interval between the pains a distinct sobbing, smothered cry was heard; the os was about one-third dilated. An inquiry was made as to whence the noise proceeded, when the patient declared it was the child crying, and that it had been doing so at intervals since the evening before—it was now 10.30 A.M. The nurse, being called, also distinctly heard the sound, which, in fact, could be heard in any part of the room, and sounded like a child sobbing under the bed-clothing. The stethoscope revealed the sound still more distinctly, at a point midway between the umbilicus and the iliac spine on the right side. Preparations were made to deliver by means of forceps if any failure in the vitality of the fœtus was manifested. The cry was heard a number of times, and about noon a drachm of fluid-extract of ergot was given, when the mother remarked that "baby had gone to sleep." No further cry was perceived until 12.30, when a couple of strong pains, following each other rapidly, expelled the child, with face toward the pubes. It was screaming lustily during the last pain, and did not require artificial respiration by any means. Though the mother's statement that the child cried the evening before cannot be positively vouched for, there can be no doubt

that it sobbed and cried for two hours before birth, beginning before the os was half dilated. This experience appears to reduce to naught most of the explanations as to how the lungs are inflated at the moment of birth. Kevin (Brit. Med. Jour., May 14, '98).

RHEUMATISM.

Etiology.—No special microbe can be held responsible for this malady. A relation between rheumatism and angina cannot be denied, but there is no special clinical picture of a rheumatic angina, and no relation between the severity of the angina and that of rheumatism. The time that elapses between the occurrence of an angina and the appearance of rheumatism is very variable. The relation of angina is, according to one view, the same as that of a wound to tetanus; another view makes the tonsils the seat of multiplication of bacteria, which themselves enter the circulation and set up inflammation of joints. There is, however, a parallel between rheumatism and pyæmia. There is no doubt that other affections than angina have an intimate causal relation to articular rheumatism; polyarthritis occurs in conjunction with scarlet fever, typhoid, diphtheria, dysentery, and other diseases, and it has been known to follow localized suppuration, such as anal fistula. In one case attacks of rheumatism occurred repeatedly during 7 years, and also one attack followed vaccination. Bloch (Munch. med. Woch., Apr. 12, '98).

Treatment.—The following are recommended as excellent local applications for the relief of acute articular rheumatism:—

- R Liquid vaselin, 5 drachms.
Methyl-salicylate, 3 drachms.—M.
- R Vaselin, 5 drachms.
Salicylic acid, 1 drachm.—M.

℞ Vaseline, 6 drachms.
Salicylic acid, 1 drachm.
Sodium salicylate, 45 grains.
Extract of belladonna, 15 grains.
—M.

℞ Salol, 1 drachm.
Menthol, 40 grains.
Ether, 1 drachm.
Lanolin, 6 1/2 drachms.—M.

℞ Alcohol (85 per cent.), 5 drachms.
Guaiacol, 1 drachm.—M.

℞ Vaseline, 6 drachms.
Guaiacol, 1 drachm.—M.

℞ Vaseline, 7 1/2 drachms.
Methyl-salicylate, 75 grains.
Salicylic acid, 30 grains.
Guaiacol, 1 drachm.—M.

℞ Terpinol, 4 drachms.
Alcohol (85 per cent.), 4 drachms.
—M.

℞ Terpinol,
Alcohol (85 per cent.) of each,
2 1/2 drachms.
Guaiacol, 1 drachm.—M.

Lemoine (Phila. Med. Jour., April 9, '98).

RUMINATION IN MAN.

Etiology.—Merycism, though described by ancient medical writers, has attracted little attention of late years. Only 13 cases are recorded in American medical literature, but in European, a great number of cases have been noted. Merycism, or rumination, is not a simple regurgitation or vomiting of food, but is the return of food shortly after it has been ingested, unattended by nausea, retching, or disgust; in many instances only those portions of the diet that demand remastication are returned. The regurgitated food is either ejected from the mouth or remasticated and again swallowed, and it is a reflex act, con-

trolled by a centre in the medulla. No constant anatomical lesion has been found. The lower end of the œsophagus was dilated in one or two cases, but this is not always observed; on the other hand, dilatation of the cardiac end of the œsophagus has been found in cases that did not present rumination. In the great majority of cases the condition is dependent on neurasthenia or hysteria, and it rarely occurs in healthy persons, although this may be the case. Heredity undoubtedly plays a part in the causations of the disease, for Runge reports a case in which father, son, and son's son were merycoles. The prospect of recovery is not good.

Treatment.—This consists mainly in attention to the general health of the patient. Lavage is an important procedure in cases in which rumination is dependent on indigestion. Hypnotic suggestion will probably prove useful, although there is no record of treatment by this measure. Sinkler (Jour. Amer. Med. Assoc., April 9, '98).

SCURVY, INFANTILE.

The earliest cases of infantile scurvy reported were erroneously described as cases of acute rachitis. With reference to the differential diagnosis, congenital syphilis could be excluded by the history, and by the absence of syphilitic lesions on the skin and mucous membranes. In congenital syphilis there was never a history of severe pain. The pseudoparalyses of syphilis were limited nearly always to the upper extremities; the swelling was never so intense as in cases of infantile scurvy, and was more prone to occur on the epiphyses than on the diaphyses. Separation of the epiphyses occurred in both diseases. Brilliant results were obtained by providing a suitable diet, such as fresh cow's milk, or

mother's milk, beef juice, orange or lemon juice, fresh vegetables, mashed potatoes, etc. The child should be placed under the best possible hygienic conditions; good ventilation be provided, and under favorable conditions of weather the child should be out of doors. Codliver-oil was especially indicated upon recovering from the scorbutic condition. Abt (*Med. Rec.*, June 11, '98).

The etiology of the disease is illustrated by the case of a child, one year old, of healthy antecedents, who had been nursed at the breast during the first three months, and subsequently given modified milk, developed scorbutus. She got her first teeth when 7 months old, but had only the four median incisors. Apparently normally developed, she was, nevertheless, anæmic. When three months old the legs became semi-flexed and fixed, the least touch or movement eliciting evidence of pain, and movements of the right arm apparently caused suffering; on corresponding portions of the lower third of the two tibiæ was a tumefaction, the upper part of which became progressively lessened; it was especially marked under and in front of the internal maleoli. The skin was tense, but of normal color; there was neither fluctuation nor crepitation, but a decided sense of resistance. No abnormality of the osseous system elsewhere; skin and eyes normal. There were faint signs of rickets, such as beaded ribs and slight tumefaction of the radial epiphyses. The gums of the inferior median incisors were a little swelled and had a slight hæmorrhagic border at the neck of the teeth; the upper gums were swelled and vegetated, blackish in color, slightly bloody and granulated,—these lesions extended to one-half centimetre on either side of the superior incisors. The tumefaction of the tibiæ and the

resulting pseudo-paralysis were caused by subperiosteal hæmorrhage.

Treatment.—This consisted in substituting plain cow's milk to the 24 hours' quantity of which was added 5 coffee-spoonfuls of puree of potato. In addition she received 5 spoonfuls of the juice of water-cress. The mouth was swabbed frequently with a warm solution of boric acid, and the legs enveloped in cotton. The patient entirely recovered in the course of twenty days. Moizard (*La Méd. Infant*, Jan., '98).

TUBERCULOSIS OF JOINTS.

Treatment.—Thirty-nine cases of tuberculosis involving the wrist treated by iodoform injections after the manner originated by Burns. Twenty-four were permanently cured, while, with 15 others, measures had to be resorted to, such as resection, amputation, etc. In those cured the functional results were excellent, far better than after resection. The iodoform was used in the form of an olive-oil emulsion of a strength of 10 to 20 per cent., and in the granulating form of the malady from 30 to 120 minims were injected; but where abscesses had been emptied, from 3 to 9 drachms were employed. The number of injections varied from 1 to 28, and usually from 3 to 7 were required. Even cases in which abscesses and fistulæ had formed, and in which disorganization of the joints and bones had produced a flail-like condition, were amenable to treatment. In using this form of treatment the most absolute asepsis must be maintained. Briegel (*Beit. z. klin. Chir.*, B. 20, '98).

UNGUAL PHALANX, DISLOCATION OF.

A negro woman was struck with a stick and in trying to ward off the blow,

her left hand came in contact therewith, the ungual phalanx of the middle finger being dislocated forwards. Reduction was easily effected. Huntley-Peck (*Brit. Med. Jour.*, Apr. 23, '98).

URETHRAL STRICTURE.

Treatment.—In every case gradual dilation should be tried before resort is had to a cutting operation. The results are quite as permanent, and the duration of treatment, being from 3 to 12 months, is no longer than when urethrotomy is performed. In 3 cases successfully treated by gradual dilation, the stricture was situated within 4 inches of the meatus. Howland (*Med. News*, Apr. 9, '98).

URTICARIA WITH RECURRENT HÆMATEMESIS.

Treatment.—Viewing urticaria as a neurosis, a liberal diet, rest, and tonics (iron, arsenic, and strychnine) were prescribed, but with no apparent benefit, the attack running a definite course of about 6 weeks' length. Some have strongly advocated calcium chloride in obstinate cases, but, though it was given a fair trial, it had no effect upon this case. Change of air and absolute rest and freedom from all worry gave the best results. Chittenden (*Brit. Jour. Derm.*, May, '98).

VEGETARIANISM.

It is frequently asserted as "a long-known fact" that vegetarians are free from digestive derangements, or, if not entirely free, more nearly so than those who indulge in mixed or flesh diet. A years' experience in India, where vegetarianism is predominant among natives, will, however, convince the most skeptical that no class of diet confers im-

VOMITING OF UTERINE ORIGIN.

munity, whole or partial, from digestive disorders. In the General Hospital at Madras very severe cases of dyspepsia in pure vegetarians have been seen. One man entered weighing but 52 pounds, and peptonized milk and essence of chicken permitted him to go out weighing 104 pounds. Surgeon Captain Grant (*Brit. Med. Jour.*, Apr. 30, '98).

VOMITING OF UTERINE ORIGIN.

Pathology.—A pregnant woman was seized with severe flooding and slight labor pains in the sixth month of gestation; there was placenta prævia; she had been very nervous because of the absence of "morning sickness," from which she suffered greatly in her six previous pregnancies. Another case had "morning sickness" in 9 pregnancies, and in the tenth was entirely free therefrom; this was another case of placenta prævia. These two cases would seem—especially if corroborated by others—to prove that the origin of the reflex "sickness" is to be found in or about the cervix uteri, and that it is probably due to the stretching of the cervical fibres and consequent irritation of the nerve endings,—they negate the flexion theory. As further proof that the vomiting of pregnancy is due to stretching of the cervical muscular fibres, cases are cited by Smellie, in which, when induction of premature labor was performed for excessive vomiting, the sickness stopped immediately on puncture of the membranes, thus relieving the pressure and showing that stretching of the uterine fibres was the causative agent.

Treatment.—Evidently anything that will tend to bring about the cervical condition which obtains in placenta prævia will also allay the vomiting. Vaginal poultices might be tried. Shaw (*Brit. Med. Jour.*, Apr. 20, '98).

Water charged with carbon dioxide.

and also the introduction of free gas into the stomach, are very effective methods to allay vomiting. The gas is anæsthetic to the mucous membrane, besides being mildly stimulating and antiseptic. It may be administered by inhalation and swallowing from tanks of compressed gas, a gauge and regulator controlling the pressure, which should not exceed 6 or 8 pounds; a stop-cock with 3 feet of rubber tubing terminating in a glass mouth-piece, the other end connected with the tank, is all the apparatus required. The patient, while fasting, places the glass tube in his mouth, depressing the tongue at the base, draws in his breath and holds it, when the stop-cock is turned and the gas allowed to flow into the œsophagus and the stomach. When the pointer of the gauge goes back to zero the pressure is withdrawn, the tube removed from the patient's mouth, and he is commanded to swallow. The operation is repeated four or five times at minute intervals, then a rest allowed. No trouble from choking is experienced; on the contrary, the sensation is rather pleasant, most patients experiencing a feeling of warmth in the stomach with a sense of exhilaration; neither is there any unpleasant feeling of distension, although the stomach may be so fully dilated as to permit of its outlines being defined. Each *séance* should last from 15 to 20 minutes. The gas may be used for vomiting from any cause, or to dilate the stomach for diagnostic purposes by connecting the rubber spray-tube of Einhorn with the glass mouth-piece. Watson (N. Y. Med. Jour., Jan. 15, '98).

WHOOPIING-COUGH.

Treatment.—Ten drops may be given to a child 12 months old, every 2, 3, 4, or 6 hours, of the following:—

℞ Tincture of belladonna, 2 drachms.
Phenacetin, 1 drachm.
Brandy, 3 drachms.
Fluid-extract of chestnut leaves, 12 drachms.—M.

A teaspoonful may be given to a child 10 years of age. Lancaster (Phila. Med. Jour., Apr. 9, '98).

WINE AND CIRRHOSIS.

A large number of French wines formerly contained as much as 60 to 90 grains of potassium sulphate per litre; this adulteration is known as "plastering." In 1891 the *loi Griffe* enacted that no wines should be "plastered" above 30 grains per litre, and now the figure has fallen to 21 grains per litre. There is no reason for believing the potassium sulphate is responsible for the intoxicating power of the wine. As regards the production of cirrhosis, Hanot and Bois found that vinous intoxication is markedly increased by various acids, notably the fatty acids, which are produced in the various dyspepsias so often caused by the abuse of wine. Wine acts on the liver by the alcohol which it contains as well as the acids, in addition to the acids produced by gastric fermentation. Lance-reaux having noticed for many years that sufferers from cirrhosis are almost always wine-drinkers, sought to discover what is the toxic element in wine, and on making experiments with sulphate of potassium he discovered that, by giving small daily doses of this agent, a cirrhotic condition could be produced in animals precisely similar to that which is found in the cirrhosis of drunkards; he therefore concluded that the plastering of wines is to blame for the development of cirrhotic conditions in wine-drinkers. Richet (Lancet, Apr. 2, '98).

the surrounding tissue is sometimes observed, but this soon passes off. The acid should only be applied to a limited surface at a time, not larger than a split pea. When first applied the yellow

lesions almost immediately turn white; in a short time a dark crust appears, which should be allowed to separate spontaneously. James C. Maguire (Jour. Cutan. and Genito-Urin. Dis., July, '98).

EDITORIAL STAFF.

ASSOCIATE EDITORS.

(List Revised August 1, 1898.)

J. GEORGE ADAMI, M.D., MONTREAL, P. Q.	S. G. GANT, M.D., KANSAS CITY, MO.	WILLIAM OSLER, M.D., BALTIMORE, MD.
LEWIS H. ADLER, M.D., PHILADELPHIA.	J. McFADDEN GASTON, M.D., ATLANTA, GA.	F. A. PACKARD, M.D., PHILADELPHIA.
JAMES M. ANDERS, M.D., LL.D., PHILADELPHIA.	J. E. GRAHAM, M.D., TORONTO, ONT.	LEWIS S. PILCHER, M.D., BROOKLYN, N. Y.
G. APOSTOLI, M.D., PARIS, FRANCE.	JULES GRAND, M.D., PARIS, FRANCE.	WILLIAM CAMPBELL POSEY, M.D., PHILADELPHIA.
A. D. BLACKADER, M.D., MONTREAL, P. Q.	EGBERT H. GRANDIN, M.D., NEW YORK CITY.	W. B. FRITCHARD, M.D., NEW YORK CITY.
E. D. BONDURANT, M.D., MOBILE, ALA.	LONDON CARTER GRAY, M.D., NEW YORK CITY.	JAMES J. PUTNAM, M.D., BOSTON.
DAVID BOVAIRD, M.D., NEW YORK CITY.	J. P. CROZER GRIFFITH, M.D., PHILADELPHIA.	GEORGE H. ROHÉ, M.D., STEEKSTADT, ND.
L. BROCC, M.D., PARIS, FRANCE.	A. GOUGUENHEIM, M.D., PARIS, FRANCE.	ALFRED RUBINO, M.D., NAPLES, ITALY.
WILLIAM BROWNING, M.D., BROOKLYN, N. Y.	C. M. HAY, M.D., PHILADELPHIA.	LEWIS A. SAYRE, M.D., NEW YORK CITY.
WILLIAM T. BULL, M.D., NEW YORK CITY.	FREDERICK P. HENRY, M.D., PHILADELPHIA.	REGINALD H. SAYRE, M.D., NEW YORK CITY.
CHARLES W. BURR, M.D., PHILADELPHIA.	EDWARD JACKSON, M.D., DENVER, COL.	SOLOMON SOLIS-COHEN, M.D., PHILADELPHIA.
DUDLEY W. BUXTON, M.D., M.R.C.P., LONDON, ENGLAND.	NORMAN KERR, M.D., F.R.S., LONDON, ENGLAND.	H. W. STELWAGON, M.D., PHILADELPHIA.
HENRY T. BYFORD, M.D., CHICAGO, ILL.	EDWARD L. KEYES, JR., M.D., NEW YORK CITY.	D. D. STEWART, M.D., PHILADELPHIA.
J. ABBOTT CANTRELL, M.D., PHILADELPHIA.	H. KRAUSE, M.D., BERLIN, GERMANY.	LEWIS A. STIMSON, M.D., NEW YORK CITY.
WILLIAM B. COLEY, M.D., NEW YORK CITY.	E. LANDOLT, M.D., PARIS, FRANCE.	G. ARCHIE STOCKWELL, M.D., NEW YORK CITY.
P. S. CONNER, M.D., LL.D., CINCINNATI, OHIO.	ERNEST LAPLACE, M.D., LL.D., PHILADELPHIA.	B. J. STOKVIS, M.D., AMSTERDAM, HOLLAND.
FLOYD M. CRANDALL, M.D., NEW YORK CITY.	R. LÉPINE, M.D., LYONS, FRANCE.	LOUIS McLANE TIFFANY, M.D., BALTIMORE, MD.
ANDREW F. CURRIER, M.D., NEW YORK CITY.	F. LEVISON, M.D., COPENHAGEN, DENMARK.	CHARLES S. TURNBULL, M.D., PHILADELPHIA.
JUDSON DALAND, M.D., PHILADELPHIA.	A. LUTAUD, M.D., PARIS, FRANCE.	HERMAN F. VICKERY, M.D., BOSTON, MASS.
N. S. DAVIS, M.D., CHICAGO, ILL.	F. MASSEI, M.D., NAPLES, ITALY.	RIDGELY B. WARFIELD, M.D., BALTIMORE, MD.
F. EKLUND, M.D., STOCKHOLM, SWEDEN.	E. E. MONTGOMERY, M.D., PHILADELPHIA.	F. E. WAXHAM, M.D., DENVER, COL.
AUGUSTUS A. ESHNER, M.D., PHILADELPHIA.	JULES MOREL, M.D., GHENT, BELGIUM.	J. WILLIAM WHITE, M.D., PHILADELPHIA.
J. T. ESKRIDGE, M.D., DENVER, COL.	HOLGER MYGIND, M.D., COPENHAGEN, DENMARK.	W. NORTON WHITNEY, M.D., TOKIO, JAPAN.
CHRISTIAN FENGER, M.D., CHICAGO, ILL.	W. P. NORTHRUP, M.D., NEW YORK CITY.	JAMES C. WILSON, M.D., PHILADELPHIA.
SIMON FLEXNER, M.D., BALTIMORE, MD.	H. OBERSTEINER, M.D., VIENNA, AUSTRIA.	C. SUMNER WITHERSTONE, M.D., PHILADELPHIA.
LEONARD FREEMAN, M.D., DENVER, COL.	CHARLES A. OLIVER, M.D., PHILADELPHIA.	WALTER WYMAN, M.D., WASHINGTON, D. C.

THE MONTHLY CYCLOPÆDIA OF PRACTICAL MEDICINE.

Vol. XII.
Old Series.

PHILADELPHIA, SEPTEMBER, 1898.

Vol. I. No. 9.
New Series.

TABLE OF CONTENTS.

PAGE	PAGE	PAGE
ABDOMINAL SECTION. H. T. Byford.....	GASTRO-ENTERITIS	351
ADENOID VEGETATIONS AND DEAF-	Treatment. Wells, Charlotte C. West.....	351
MUTISM. E. Fayette Smith.....	GENU VALGUM. Clarke.....	351
ADENOIDS, POST-NASAL	GERMAN MEASLES	352
Diagnosis. Rice.....	Diagnosis. Forchheimer.....	352
ALGINATE OF IRON. William Mac-	GONORRHOEA	352
leannan.....	Etiology. H. Brooks Wells.....	352
AMENORRHOEA	Treatment. G. K. Swinburne.....	352
Etiology. Alexander Simpson, Robert	GOUT	324
A. Reid.....	Diagnosis. Watson Williams, A. H.	
Treatment. Luff, W. E. Fothergill,	Buck.....	324
Alexander R. Simpson, C. Earle	Etiology. Froelich, Nobecourt, Cor-	
Williams, Letaud.....	nilton.....	324
ANIMAL EXTRACTS. Parry, W. E.	Pathology. N. S. Davis (Jr.), A. P.	
Moseley.....	Luff, C. S. Bull, Oliver, Riehl,	
ELLENORRHAGIC ARTERITIS	Kittel.....	325
Treatment. König.....	Treatment. Luff, Ransom, Arm-	
BOILS, CARBUNCLES, AND FLEMONS	strong, H. C. Wood, George W.	
Treatment. L. Duncan Bulkley.....	Tobias, F. Levison, von Noorden,	
BRIGHT'S DISEASE	Grawitz, R. Newman.....	328
Treatment. James Tyson.....	HYDROCEPHALUS, ACQUIRED	353
CELEBROSIS	Etiology. Bruce and Stiles.....	353
Treatment. Roisin.....	Treatment. Bruce and Stiles.....	353
COLOSTOMY AND COLOSTOMY. König	HYSTERIA AND PELVIC DISEASE. F.	
and Sonnenburg, Mosetig-Moorhof.....	X. Derouin.....	354
CONDURANGO. Lemoine.....	INTESTINAL PERFORATION	354
CONVULSIONS, INFANTILE	Diagnosis. E. M. Sutton.....	354
Etiology. Meunier.....	KRYOPHINE. John H. Curtis.....	356
DYSENTERY. W. S. Attygalle.....	MEASLES	355
ENTEROCOLYEMS. Judson Daland.....	Diagnosis. Siawyk.....	355
EXOPHTHALMIC GOITRE	MILK AS A CULTURE-MEDIUM. J.	
Treatment. Bertram.....	W. Strickler.....	355
FALLOPIAN TUBES, DISEASES OF	MILK: ITS ABSORPTION vs. ITS DI-	
Diagnosis. William H. Skene, A. J.	GESTION. Bulkley.....	355
C. Skene.....		
	MYXEDEMA IN THE NEGRO	356
	Symptoms. Berkley.....	356
	Treatment. Berkley.....	356
	NEURASTHENIA	356
	Etiology. Frederick Peterson.....	356
	OPHTHALMIA NEONATORUM. Lucien	
	Howe.....	357
	PEMPHIGUS	357
	Treatment. R. P. Islar.....	358
	STERILITY	331
	Etiology. G. Fajol, E. Rode, Vedeler,	
	Bousler.....	331
	Treatment. Jones, W. Gill Wylie.....	332
	YELLOW FEVER	333
	Diagnosis. John Guitéras, S. E.	
	Archinard and R. S. Woodson, R.	
	D. Murray, Eugene Wasdin, H.	
	R. Carter, Melier, Edwin Klebe.....	333
	Bacteriology. Havelburg, Sanarelli,	
	Surgeon-General Sternberg, E.	
	Klebe.....	334
	Pathology. Cuban Commission of	
	Mississippi, R. D. Murray.....	337
	Prognosis. Geddings.....	338
	Treatment. Sanarelli, E. K. Sprague,	
	H. M. Folkes, H. D. Geddings, R.	
	D. Murray.....	338
	Prophylaxis. H. R. Carter, W. F.	
	Brunner, Wasdin, Seaton, Nor-	
	man, J. H. White.....	340
	Post-epidemic Disinfection. Surgeon-	
	General Walter Wyman.....	343
	BOOKS AND MONOGRAPHS RE-	
	CEIVED	358
	EDITORIAL STAFF	360

Cyclopædia of the Year's literature.

AMENORRHOEA.

Etiology.—Alexander Simpson¹ argues that just as modern pathologists have suggested that in the case of anuria uræmia results, so in the case of amenor-

rhœa, where the menstrual flow does not occur, or does not escape, there is an element retained in the blood which

¹ Practitioner, Aug., '98.

causes a general disturbance in the system that might be called "menorrhæmia." The nervous system is at fault in many cases of amenorrhœa. In some cases patients get a chill, and that, perhaps, first affects the nervous system, while in others there is simply a mental impression, in which the patient has either a dread of conception or an eager hope of conception, and it has been noted that under one or the other of these emotional states the menstrual flow will sometimes be arrested for a month or two. So also in cases where the patient has had a fright or a disappointment or has been subject to a fit of passion. For the healthy performance of menstruation it is absolutely necessary that there should be a healthy circulatory apparatus and a healthy circulating fluid. Here, again, we find that in many of the cases of amenorrhœa there are defects in the circulatory apparatus, such as heart disease, or there is imperfect development of the blood-vessels. Everything which depresses the general health in a female is apt to show itself in depressing the menstrual function, in some cases even to its complete disappearance. But besides looking to these necessities for menstruation,—a healthy nervous system, good blood, and a good circulatory apparatus,—one must look to the seat of the menstrual flow and the associated organs, because the menstrual function is dependent not only on the condition of the uterus, but also on the condition of the associated organs. There is a tendency to refer the menstrual flow merely to conditions of the uterus and to the nervous system and the blood; but we must keep very strictly in view that the ovaries play a most important part in determining the regular healthy occurrence of menstruation. It has recently been shown that the nerve-

influence of the ovary is serviceable to the uterus in that it keeps up the steady rhythmical contractions that go on in the unpregnated uterus. So where the ovaries have become diseased, or have had to be removed, the uterine contractions that should go on normally, and become more pronounced at the menstrual periods, are absent. In those cases where the follicular stroma of the ovary has been the seat of an inflammatory process during the infectious fevers, the patient may have an amenorrhœa which may remain and become permanent.

An interesting case has been observed by Robert A. Reid,² in a young woman who presented many of the usual signs of pregnancy, including cessation of the menses, prominence of the abdomen, etc. On examination enormous deposits of adipose tissue were found in the abdominal walls, while the uterus was small—smaller indeed, than usual. Subsequent events proved it to be a case in which obesity had led to disturbance—if not, indeed, to early disappearance—of the menstrual function.

Treatment.—Leuf³ states that amenorrhœa may be caused by an underdevelopment of the uterus, or its atrophy, or to some neurotic influence. Cessations due to wasting diseases are conservative, the flow simply stopping because nature cannot permit the loss of blood in view of the other strain upon the system. An atrophied uterus requires the same treatment as an underdeveloped one, though it is less likely to respond to stimulation if it has existed for a long time, for retrograde changes are generally not as easily reversed as natural development is stimulated. The flow is most readily stimulated by the bipolar application of

² Mass. Med. Jour., Aug., '98.

³ Med. Council, Oct., '97.

the long, fine-wire, secondary faradic coil two or three times a week for from two to six months, continuing for ten or fifteen minutes at each sitting. It has also been accomplished by the passage of a similar current through the pelvis from the sacrum to the hypogastrium, the anode being behind. When the flow is simply scanty, the galvanic current is better, the cathode being in the uterine cavity and the anode upon the abdomen, with a current-strength of from 50 to 75 milliamperes. The leading fact should not be forgotten that the cathode increases circulation and nutrition, and that the anode has the opposite effect.

W. E. Fothergill⁴ claims that senecio will not cause abortion, or in any way influence the course of pregnancy. The practical utility of a drug which will cure functional amenorrhœa, but will not interfere with pregnancy, is, of course, obvious. A girl, for instance, is brought to the practitioner by her mother, amenorrhœa being the only symptom complained of. A physical examination is, for the time, out of the question, and a series of interrogations may cause unnecessary suffering. Functional amenorrhœa may be the condition or pregnancy. Under these circumstances, senecio may be safely prescribed before making a diagnosis, as it will probably cure the one, and certainly will do no harm to the other.

Eleven cases observed of true functional amenorrhœa in which senecio gave excellent results. No general disease, such as anæmia, or phthisis, was present, nor was there any deficiency, congenital or other, of the reproductive organs. The nervous mechanism which initiates the menstrual flow was, however, inactive in each case, and senecio appeared to be effective in stimulating it into action. In cases of anæmia, however, and

other conditions of exhaustion, due to disease, senecio has been found quite inactive in restoring menstruation. In such cases the cause of amenorrhœa is, of course, that the patient has no blood to spare; and treatment by a direct emmenagogue cannot be expected to have any effect, while indirect treatment by food, iron, etc., is indicated.

According to Alexander R. Simpson,⁵ no practitioner wants to merely stimulate uterine flow unless he also builds up the patient's system. In most cases the iron, when prescribed medicinally, has to be administered for some length of time. In recent times the preparation that has most favor is the Bland preparation of iron, whether in the form of a pill, tabloid, or a palatinoid. These preparations are given for at least six weeks to an amenorrhœic girl with pale mucous membranes. Where the iron of itself does not produce improvement in the blood, it sometimes brings about menstruation if it be given in combination with some other minerals—such as preparations of zinc or arsenic. As a rule, arsenic and iron bring about the conditions favorable to menstruation. Manganese, also, is very valuable in the treatment of amenorrhœa. In the managements of these patients it is important to keep in view that many of them are the subjects of constipation; hence, aloes-and-iron pill is a very favorable preparation.

In a clinical report on the value of ferratin in anæmic conditions Dr. C. Earle Williams⁶ reports the following interesting case, typical of frequent occurrences in general practice:—

T. P., age 19, had not menstruated for

⁴ Edinburgh Med. Jour., May, '98.

⁵ Practitioner, Aug., '98.

⁶ Amer. Therapist, Aug., '97.

five months. Her complexion was chlorotic, with large, dark rings around the eyes. There was dyspnoea and palpitation on the slightest exertion, constipation sometimes lasting seven days. Blood-count showed: red cells, 3,000,000; hæmoglobin, 52 per cent. She was placed on ferratin, 8 grains four times daily, with aloetic purges, combined with perfect rest. The dose of the ferratin was gradually increased to 12 grains four times a day, resulting in complete recovery. All the distressing symptoms left; menstruation returned, quantity and quality good; red cells, 4,600,000; hæmoglobin, 92 per cent.

The following formula has been followed by good results in amenorrhœa:—

R Strychnine sulphate, $\frac{1}{2}$ grain.
Iron peptonate,
Manganese lactate,
Scammony, of each, 20 grains.

To be divided into forty pills. Two to four pills to be taken every night on going to bed. (Lutaud.⁷)

GOUT.

Diagnosis.—Watson Williams⁸ states that in some countries gouty affections of the throat are even more common than rheumatic affections. The symptoms are very similar, though the pain may be more intense. Small tophi have been seen on the vocal cords and at the crico-arytenoid joint, though this condition is exceedingly rare. Gouty deposits in the laryngeal mucous membrane have been diagnosed as cancer. When gout has been correctly diagnosed as the pathological cause of the throat disease, the only local treatment should be in the form of mild, soothing sprays. Internally, colchicum and its preparations, iodides, Vichy water, etc., with suitable diet and hygiene should be given.

A. H. Buck⁹ claims that a patch of eczema, of spontaneous development, signifies the existence, in the subject possessing it, of a gouty diathesis. As it happens, the floor of the external auditory canal is apt to be the very first spot on the surface of the body where an eczematous inflammation develops. This condition constitutes a valuable guide-post, pointing as it does, at a very early stage, to the existence of that disturbed state of the metabolic processes to which the term "goutiness," or a "gouty diathesis," is applied. Different localities or different tissues are involved at different times. At one time it is the skin of the external auditory canal and auricle; at another time the dermoid surface of the tympanic membrane, as well as the walls of the canal; at still another the adjacent bone tissue is affected; and, finally, the disease locates itself in the mucous membrane of the tympanic cavity, and particularly in that part of it which borders upon the two fenestræ.

Etiology.—Froelich¹⁰ remarks that the theory must be regarded as proved which attributed the formation of uric acid in the body to a process of leucolysis following on a leucocytosis. A review of the literature upon tissue-necrosis in gout leads the writer to state definitely that the process is caused by a poison, probably a nucleic acid, acting in a similar way to that in which tissue-necrosis is caused by lead in plumbism.

Nobecourt¹¹ says that a form of gout exists related to saturnine intoxication. It is slowly established. The patient does not exhibit the various morbid

⁷ Jour. de Méd. de Paris, Dec. 19, '97.

⁸ Laryngoscope, Apr., '98.

⁹ Amer. Jour. Med. Sci., Mar., '98.

¹⁰ Jour. Amer. Med. Assoc., Jan. 3, '97.

¹¹ Sem. Méd., Apr. 23, '97.

phenomena of latent gout common in subjects of this diathesis throughout their early life. He is subject rather to colic, arthralgia, encephalopathy, apoplexy, albuminuria, paralysis, or dorsal tumor of carpus. He is unlike the hereditarily gouty, pale, thin, and anæmic. The mode of evolution of saturnine gout is analogous to that of ordinary gout. It resembles in some respects the gout of patients debilitated by any cause. The distinguishing features are frequent repetition of the attack, rapid generalization of the arthritis, and one frequent solitary visceral manifestation, namely: interstitial nephritis. Less-common phenomena are the rapid transformation of the acute into the chronic form, and the early development of tophi. Diagnosis is based on the same considerations as in ordinary gout. Again, gout in a saturnine patient is not necessarily saturnine gout.

Cornillon¹³ remarks that, although the primary manifestations of gout are rarely initiated by traumatism, an acute attack of gout already pre-existing may be thus begun. The writer, however, details cases in which injuries were followed by the first appearance of the disease. Thus, a man of 53 years fell, dislocating his left shoulder. The dislocation was reduced at once, but three days afterward the left knee became swelled, red, and hot. The next day the great toe on the same side became similarly affected. Several days afterward all the joints were free of gout, but the right knee presented symptoms of it at a later date. The administration of salicylate of soda arrested the attack in about two weeks. This patient might probably have developed gout at some period or other, whether injured or not, but the injury precipitated the external symptoms of an inherent dyscrasia.

Pathology.—N. S. Davis, Jr.,¹³ states that the atheromatous changes which take place in the arterioles throughout the body, including those of the kidney, in the gouty subject are well known. But some points in connection therewith are often overlooked. One of these is the gradual progress of the renal disease, the organ being affected in spots, with intermissions in the degenerative changes which are microscopical in size, until finally large areas are involved. In these cases the glomeruli and tubules are attacked in a way at times to cause scarcely an appreciable symptomatology, whereas the same changes coming on suddenly, as in cases of a different etiology, cause striking clinical and urinary manifestations. The arterial changes in the nervous system lead to various nervous disturbances by interference with the nutrition of nerve-centres. Cerebral manifestations may arise from uræmia or from thrombosis of the cerebral arteries.

A. P. Luff¹⁴ believes that a functional affection of the kidneys always precedes gouty manifestations, and that this functional lesion, which may be started by various agents and causes (among which are excessive indulgence in nitrogenous foods, wines, and beer; the toxic effect of lead; and the influence of nervous impulses, such as mental shocks, severe accidents, etc.), may subside on the removal of the exciting cause, or it may pass on to a structural lesion, which is then of the contracted granular type and may also be transmitted by heredity.

The anatomical seat of the kidney affection is probably in the epithelium of the convoluted tubes, as that is the

¹³ *Progrès Méd.*, Jan. 2, '97.

¹⁴ *Med. Rec.*, July 10, '97.

¹⁵ *Indian Med. Rec.*, July 1, '98.

primary seat of disease in granular kidney and the increase of interstitial tissue is probably a secondary change, while granular kidney is not always evidenced by the occurrence either of albuminuria or of dropsy, and during life there may be no external manifestations of the existence of such renal mischief as the post-mortem may disclose.

On the whole, there is abundant evidence showing the direct connection between kidney trouble and gout, since uric acid has always been found in the blood in cases of renal disease, while uratic deposits are frequently found in the kidney and joints of gouty subjects and in the joints of persons with renal disease, but who have never been known to have had ostensible gout, and kidney mischief is frequently met with at the post-mortem of gouty subjects.

Alterations in the metabolism of the liver necessarily affect the formation, excretion, and daily elimination of uric acid by healthy persons; and, as variations in the metabolism of the liver are induced by changes in the quality and quantity of food ingested, by the amount of exercise, and by various nervous influences, it can be readily understood why liver trouble of some kind or another frequently accompanies gouty dyspepsia, and the fact is explained how several observers, unable to dissociate the connection between liver troubles and gout, have attributed the formation of uric acid to the liver.

The uric acid formed in the kidneys is at once converted into the quadriurates of ammonium, potassium, and sodium, and in healthy persons excreted dissolved in the urine, from which they sometimes separate, on cooling, as a deposit of "amorphous urates." In gouty conditions these urates are absorbed into the blood, where the sodic carbonate

converts the ammonium and potassium quadriurates into sodium quadriurate, which is an unstable salt and is gradually transformed into the less soluble and less easily excreted sodium biurate, which first passes into the hydrated or gelatinous modification, but, if it be present in the blood in greater amount than that fluid can retain in solution, it passes with the lapse of time and increasing accumulation into the almost-insoluble anhydrous or crystalline condition, and is deposited in those tissues (of the connective-tissue class) which, either on account of having received previous slight injuries or because of their poor vascular supply, favor its deposition.

C. S. Bull¹⁵ finds, associated with gout, changes in the walls of the blood-vessels of the retina, choroid, and optic nerve, including arteries, capillaries, and veins. Retinitis of a peculiarly-localized character, confined to the posterior zone of the fundus, with or without hæmorrhages in the retina and vitreous, and characterized by a peculiar yellowish exudation, occurring in clearly-defined patches. Optic neuritis, generally with, but sometimes without, an accompanying retinitis. The changes in the fundus are always bilateral, though rarely symmetrical in the two eyes. The lesion may begin simultaneously in the two eyes; but this is by no means always the case. The degenerative changes in the walls of the blood-vessels, both arteries and veins, are at first very minute and often overlooked. The general angiosclerosis and the patchy exudation in the retina cause marked impairment of central vision, but little impairment of the peripheral vision, and

¹⁵ Trans. Fourth Congress of Amer. Phys. and Surg., page 4, '97.

the disease never ends in blindness. The loss of central vision is always progressive up to a certain point. Improvement of the vision after the retinal disease is established cannot be expected, though in favorable cases the existing vision may be maintained. Hæmorrhages into the retina are rare except in the comparatively early stages of the disease. The most-marked feature in the ophthalmoscopic picture is the development of the angiosclerosis in the vessels of the retina.

Another almost equally marked symptom is the peculiar yellowish granular exudation in the retina, located by the ophthalmoscope around the posterior pole of the eye, and generally leaving the macula intact until late in the course of the disease. This exudation is shown by the microscope to be mainly in the nerve-fibre layer, though found in all the layers except that of the rods and cones. The changes in the optic nerves seem generally to be intra-ocular, but have been traced occasionally for some distance back of the eyeball.

Oliver¹⁶ says that the eyeball is nothing more than a lymph-holding end-organ, constantly changing its fluid constituents, and that in these structures changes can be produced by uric acid and urates. The presence of material in the outer coats of the eye that is so similar to that found in any joint shows how the external coverings of the organ and its incompassing capsule can be seriously disturbed by fluid change, inflammatory exudate, and inorganic deposit as the result of gouty diathesis. The lids, conjunctiva, and lacrymal apparatus are often swelled and excruciatingly painful. The inflammation is very rapid in onset, and quickly subsides by the application of dry heat and employment of constitutional measures.

Calcified Meibomian glands are frequently seen in middle-aged and elderly subjects as evidence of similar changes found elsewhere. Keratitis (peculiarly band-like in character) has been described by some authorities. The sclera gives evidence, particularly in the male subjects, by a series of extremely-fugitive signs. Generally circumscribed, the redness is not rarely associated with intense dread of light and frequent attacks of severe pain, with copious lacrymation. The condition suddenly disappears by the local use of heat and the internal administration of large doses of alkalis. The iris is often also involved. In the ciliary body and choroid the diagnosis is less easy and the evil consequences are greater. Where the retina and optic nerve are concerned the ophthalmoscopic picture is generally typical. Hæmorrhages with changes in the size of the blood-vessels often appear early in the case. Later, shrinkage, atheroma, and sclerosis of the vessel-walls are apt to appear. At times these are associated with peculiar, glistening, yellowish bodies found in the region of the macula.

Riehl¹⁷ argues that in gout urate crystals are deposited in unaltered living tissues, and that the assumption that necrosis of the tissues must precede the deposit of the salts must be given up. Whether the tissue-increase about the urate deposits is due to mechanical or chemical irritation is not yet clear. Gouty nodules are probably formed as follows: First, a deposit of crystals in the lymph-spaces and vessels, and in the connective tissue itself, due to this inflammation of the surrounding tissue with granulation-tissue and giant-cells. The failure to find urates in the healthy

¹⁶ Jour. Amer. Med. Assoc., July 31, '97.

¹⁷ Wiener klin. Woch., No. 34, '97.

tissues is due, in part, to having examined tissues from the cadaver, and, in part, to faulty methods of hardening.

Kittel¹⁸ describes, in the aponeurosis of the foot and in the bones, a collection of small particles resembling concretions of sand, which may, by the pressure, interfere with the locomotion of the patients. In his opinion, these are the result of interference with the circulation of the foot, especially long-continued exposure of the foot to wet. Under these conditions a gradually-progressive degeneration takes place, which is followed by a necrosis of the tissues; a deposit of urates follows; stiffness, deformity, and distortion of certain of the joints takes place. The clinical symptoms are not those of true gout, but are considered by the writer to be a typical form of gout. Medicinal treatment against gout is useless, as the deposits of the urates are well encapsulated in necrotic tissue beyond the reach of any means of promoting absorption. For treatment the writer recommends mechanical exercise with massage, accompanied by cloths wet in alkaline solutions.

Treatment.—Luff¹⁹ says that the treatment of gout should aim at (1) checking excessive formation of uric acid in the kidneys, (2) preventing its absorption into the blood, and (3) promoting the removal of uratic deposits by facilitating the elimination of the quadriurate and biurate contained in the fluids of the body.

To check the excessive formation of uric acid, liver-metabolism should be promoted, and congestion of the portal system relieved by regulating the diet and regimen. Colchicum and guaiacum, as stimulants of hepatic metabolism, are very useful in many forms of gout. Constipation and the congestion of the

portal system may be relieved by occasional doses of blue pill followed by an Epsom-salts purge.

To promote the elimination of the quadriurates formed in the kidneys and so prevent their absorption into the blood is to strike at the primary evil in the causation of gout. To promote this diuresis should be increased and the activity of the urine diminished. Citrate of potassium is a good diuretic which not only increases the solubility of the quadriurates, but also diminishes the acidity of the urine and should be pushed until moderate alkalinity of the urine is produced.

The removal of uratic deposits and the elimination of quadriurates and biurates from the system may be attained by free diuresis, baths, and suitable exercise, and the careful selection of a mixed diet with a fair amount of vegetable food, since the mineral constituents of certain vegetables, such as Brussels sprouts, cabbage, French beans, spinach, turnips, and turnip tops possess to a remarkable degree the double function of inhibiting the conversion of sodium quadriurate into the biurate and increasing the solubility of the latter; but the idiosyncrasy of each patient to various articles of diet must be made the subject of careful observation.

Ransom²⁰ regards the use of drugs, other than tonics and digestives, in cases of gouty diathesis which show no actual symptoms of the disease as of doubtful value. The writer's treatment consists of six tumblerfuls of water daily, three of which may be taken hot; small doses of calomel followed by sulphate of sodium, or, instead of the calomel, a pill

¹⁸ Berliner klin. Woch., No. 17, '97.

¹⁹ Indian Med. Rec., July 1, '98.

²⁰ Med. Rec., Feb. 6, '97.

containing colchicum, colocynth, and calomel; and the taking of medicated baths. Regular bathing is regarded as almost the most important item, and next to it regular exercise, out-of-doors if possible. All forms of meat are allowed at least once a day, or twice if desired, but no vegetable which grows underground and a restricted amount of sweets. In the treatment of chronic gout, in the intervals between acute attacks, the use of mineral baths, with massage and exercise, are regarded as of the greatest value. If there be some local subacute affection present, the exhibition of calomel, followed on the day after by iodide of potassium and colchicum-wine, may be given, and continued for several weeks. An ointment containing iodine and iodide of potassium applied to the joints is often of service, or, if there is much pain, ichthyol ointment from 30 to 50 per cent. in strength may be used instead. In acute gout treatment should commence with a full dose of calomel, followed by doses of 15 drops of colchicum-wine, which may be increased or diminished according to the absence or presence of toxic symptoms. If the pain is very severe, opium in the form of Dover's powder is indicated.

Armstrong²¹ relates that during the last few years he has given trial in various cases of gouty arthritis and recurrent renal calculi to a method of treatment based on the prolonged administration of only red meat and hot water. Very marked improvement has resulted, which persists in spite of gradual return to an ordinary dietary. Observations on auto-intoxication in relation to the causation of gout and rheumatoid arthritis had led the writer to believe that it is the complex chemical changes brought about by the admixture of red meats with carbohydrates and sugar that causes the ex-

cessive formation of uric acid. His plan is to give the patient a daily allowance of from one to four pounds of lean beef,—steak minced and cooked in various ways,—the patient drinking from one to five pints of hot water, and avoiding all starchy, saccharine, and fermentative articles of food. This treatment is indicated in obstinate chronic gouty arthritis, in recurrent uric-acid calculi, in frequent and intractable migraine, and in cases of persistent gouty dyspepsia. It has proved especially useful in the presence of symptoms of amylaceous and intestinal dyspepsia and of excessive formation of hydrogen sulphide, urates, indican, skatol, creasol, and other toxins. The carbohydrates, by their affinity for oxygen, interfere with the due oxidation of the tissues. Whatever poisonous matters remain in the system are readily eliminated by the taking of the hot water, which also flushes the stomach, liver, and kidneys. The treatment is irksome and trying and must of necessity be carried out with great strictness; therefore its use should be confined to the more difficult cases. It should be prescribed but rarely, and then only under the most careful supervision in cases in which the heart or kidneys are diseased. Used with due care, it is a most efficient and brilliant addition to the therapeutic measures.

In the opinion of H. C. Wood,²² there are three great manifestations of the same thing, universally allied. They are rheumatoid arthritis; podagra, or true gout; and articular rheumatism. One must not attempt to treat gout, but treat the person who comes before him. There is diet for the gouty, but there is a diet for the person. Nevertheless, in

²¹ Brit. Med. Jour., May 1, '97.

²² Med. Rec., July 10, '97.

the large majority of cases sugars and starches must be cut off. But in spare gouty subjects farinaceous diet may be essential. Milk probably suits the largest number of gouty patients. Patients who can take but little exercise at first can gradually be led up to the point of taking a great deal of exercise, and this is essential for further attacks. Strontium salicylate is less disturbing than salicylate of sodium. In some instances it agrees better with the patient when combined with digitalis and strychnine. Medicines, however, will not eradicate the diathesis.

George W. Tobias²³ says that an elegant and perfectly-safe preparation of the drugs, and one which in his hands has never failed, is colchi-sal (colchicine-methyl salicylate). This drug is dispensed in capsules of 20 centigrammes and each contains a quarter of a milligramme of the active principle of colchicum.

F. Levison,²⁴ believing that the uric-acid output does not depend upon the intake of albuminoids, but rather that the disease is secondary to renal degeneration, which, in turn, is caused by the failure of the uric acid to remain in solution, and further noting that the nucleins increase the production of uric acid, would exclude from the dietary all substances rich in nuclein, as thymus gland, liver, kidney, and pancreas. Alcohol, especially in high-percentage liquors and in concentrated solutions, not only increases uric acid, but also directly injures the kidneys, and therefore should be forbidden. Coffee seems to increase the amount of uric acid. In order to prevent the precipitation of uric acid in the kidneys, large quantities of fluid should be taken; the best is boiled water or milk. Mineral acids are not allowed, but vegetable acids, especially

those which are oxidized to alkaline carbonates, can be used without harm. Excessive alkalization of the urine leads to two dangers: (1) the formation of a phosphatic calculus, or (2) in patients whose kidneys are already diseased and in whose blood there is already commenced a storing up of uric acid, there supervenes an acute attack of gout from an excessive amount of sodium salts in the blood and tissues. So long as the reaction of the morning urine is only feebly acid and the sediment obtained by centrifuge contains no uric-acid crystals, all is attained that is attainable from the use of alkalies, and further increase of the dose is not only unnecessary, but may be directly harmful. Recognizing the dangers of excessive use of the alkalies, von Noorden makes use of calcium carbonate in the treatment of gravel. Calcium carbonate is not eliminated by the kidney, but in the intestines unites with phosphoric acid and is eliminated as calcium phosphate. Thus phosphoric acid being diminished in the urine, the triple phosphates are then more largely formed, while the monosodium phosphate is in a smaller amount; so that the urine remains acid and yet holds uric acid in solution. For acute gouty attacks the greatest reliance is placed upon colchicum. For the stiffness and deformities various methods have been in use—dietetic regulations, massage, iodine-painting, and especially various warm baths.

Recently Grawitz makes use of hot sand-baths; the dry sand is heated to a temperature of 104° to 122° F. and the limb wrapped in it. This has not, according to the author, benefited any instance of arthritis, although it relieves

²³ Kansas City Med. Rec., Mar., '97.

²⁴ St. Petersburger med. Woch., Nos. 1, 8, 1; 8, 9, '97.

nerve-pains, as in neuritis after influenza.

Of much greater value is the electrical treatment, making use of a battery of forty-eight large Leclanché cells for thirty minutes. The positive pole, connected with a carbon electrode, is immersed in a 2-per-cent. solution of lithium chloride which has been made alkaline with lithium carbonate. The negative carbon electrode is placed in a very weak sodium-chloride solution. The portion of the body to be treated is placed in the lithium-bath and a convenient part, as the hand or foot, is put into the salt solution. A current of 20 to 30 milliampères is now passed, although some patients cannot bear more than 10. Of the 15 patients who received this treatment, 10 were markedly benefited, while in the remainder the results were less favorable or negative. The results claimed are that stiff and useless joints become movable and serviceable; that the pains are completely removed, and the muscular atrophy disappears. The theory of the action is that lithium, at the positive pole, is separated from the lithium-chloride solution and carried into the body in an available form; so that readily-soluble lithium urate is formed from the deposited urates.

R. Newman²⁵ concludes that there is a variety of causes and symptoms of gout. The diet, and treatment, etc., cannot be stated as a routine for all cases.

Static electricity is the best treatment in hereditary gout, and will prevent attacks, if used judiciously at the right time. Static electricity and other electric currents will cure many of the other varieties of gout. Static electricity is generally diffused in the body, and penetrates deeply through tissues and joints.

It acts as a general tonic. The breeze allays any pain, in most instances, in five minutes. In very painful affections of the joints it needs several applications before the pain and infiltration are removed; but, when an attack is in progress, after three applications in a single day freedom of motion and cessation of pain should be expected. It replaces exercise and acts as passive motion.

STERILITY.

Etiology.—G. Pujol²⁶ has investigated fully the question of uterine fibroids and sterility, and finds that all agree as to the frequent co-existence of uterine fibroids and sterility; but all are not at one as to the kind of relationship, the majority regarding the sterility as the result of the tumors, some looking upon the fibroids as the consequence of the sterility. The writer believes that a sufficient explanation of the sterility is found in the various modifications which the fibromyomatous neoplasms produce in the uterus that contains them. These are chiefly metritis (especially granular), inflammatory affections of the tubes, and atrophy in the ovaries of the Graafian follicles; less efficient are the uterine hæmorrhages or hydrorrhœa, spasmodic contractions of the uterus, its displacements, and slight attacks of pelvic peritonitis and the occasional existence of vaginismus as a complication.

In an article on sterility²⁷ E. Roder speaks of a minor abnormality of formation which consists in a prolongation of the posterior column of the vagina on to the hymen, whereby the hymen is

²⁵ *Med. Rec.*, Dec. 11, '97.

²⁶ *Arch. de Gynec. et de Toccol.*, Sept. to Dec., '96.

²⁷ *Tidsskrift for den norske Lægeforening*, '96.

rendered very resistant. A simple remedy is that of a transverse incision of the columna behind the hymen, followed by a suture so contrived as to convert the wound into an anterior-posterior one.

Vedeler²⁸ reports his investigation of 310 sterile women, all of whom had been married more than one year. Seventy-two had been married ten or more years, and the average duration of married life in the remaining was three years. The examination of 50 of the husbands of these women determined that 38 surely had had gonorrhœa, and it was also determined that 34 (68 per cent.) of these had infected their wives. He says it can be concluded that the result of the examination of these 50 sterile marriages be correct, then 235 of the 310 husbands must have had gonorrhœa, and also that 210 wives were infected. That this last approaches the truth is shown in that in 198 (44 per cent.) of the 310 women examined the same inflammatory signs of gonorrhœa were found as in the 34 whose husbands undoubtedly had had gonorrhœa.

Benzler²⁹ made careful and reliable inquiries from 31 men, who were at a previous time of their military service afflicted with epididymitis bilateralis, and who later on married. Of these 38.7 per cent. proved to be sterile, 61.3 per cent. produced posterity—some of them quite a numerous one. In the latter series of men the epididymitis was only in 3 instances associated with vasitis, while in the cases which led to sterility this complication existed in 50 per cent. of the cases. The prognosis in cases of bilateral epididymitis regarding the potentia generandi is, therefore, much more favorable than it is commonly believed to be.

Treatment.—Jones, of Edinburgh,³⁰ states that belladonna is followed by

more or less benefit in every disease to which the female sexual organs are liable; and in married women who, though apparently enjoying the best of health and never suffering from any irregularity of the sexual organs, are yet sterile, the exhibition of belladonna internally for some weeks is so frequently followed by pregnancy as to preclude considering the occurrence as a mere coincidence. During the exhibition of the drug, the external genitals become more relaxed, and the os and the cervix more pliable and softened.

W. Gill Wylie³¹ describes the method he employs in the treatment of dysmenorrhœa and sterility as follows: "When a patient comes to me suffering from dysmenorrhœa and sterility, if the os is sensitive (and this is an indication for the tube), after excluding disease of the Fallopian tubes and other complications, I put her under ether, curette the uterus thoroughly after dilating freely, but not enough to split the cervix, and introduce the fenestrated drainage-tube. I also insert a retroversion pessary to keep the tube in place by holding the os uteri backward. No gauze is employed. A vulvar pad is applied and the patient put to bed, where she is kept quiet for a week. She is then allowed to get up and move about her room for several days. The tube is then removed, and, if she menstruates without pain at her next period, nothing more is done. If she does have pain, several months later I curette again and introduce a smaller tube, keep the patient in bed for a week, and then let her go home wearing the tube, enjoining her to keep the parts

²⁸ *Centralb. f. Gynäk.*, No. 26, '97.

²⁹ *Deutsche milit. Zeitschr.*, No. 4, '97.

³⁰ *Columb. Med. Jour.*; *Mass. Med. Jour.*, Aug., '98.

³¹ *Amer. Gyn. and Obst. Jour.*, June, '98.

clean by an occasional douche. After the patient has passed through two or three periods, the tube is removed. Of course, all cases in which there is tubal disease are excluded. I have never had a case in which salpingitis or sepsis followed this treatment, although I have been employing it for ten years. I can take ten cases of typical dysmenorrhœa, with anteflexed uteri, and in a few weeks I will cure half of them; in a few months nine out of ten can be cured. In rare cases the treatment has to be repeated a third time. In sterility the results of this treatment have been marvelous. Women as old as 39 have been cured of sterility. The treatment is safe and successful."

YELLOW FEVER.

Diagnosis.—John Guitéras²² states that there is no acute febrile disease in which there are so many signs that may be called pathognomonic. The diagnosis of the disease rests upon three such symptoms, namely: the facies, the albuminuria, and the want of correlation between the pulse and temperature. The facies are extremely characteristic. The appearance of the face is like that of measles before the eruption breaks out, with a more or less pronounced icteroid hue. In the first twenty-four hours, or forty-eight, it is by no means a distinct jaundice. The icteroid hue is often better seen at some distance from the patient than when the eye is closely inspected. In severe cases and on the second and third days of the disease the jaundice becomes more prominent, and later on it may be well marked. The mind is usually clear and there is a peculiar alertness and watchfulness that is not seen in other acute febrile diseases. The albumin appears in the urine usually on the third or fourth day

of the disease. In many cases it is only a trace, but even then by a careful centrifugation granular casts may be found in the urine. The want of correlation between the pulse and the temperature may be a rather late manifestation and may be absent, especially in children. The characteristic feature is that quite often we find that, at the same time that the temperature may be rising, the pulse will be falling.

S. E. Archinard and R. S. Woodson²³ have discovered an agglutination-test to be used in the diagnosis of yellow fever. A drop of blood is taken from the lobe of the ear of the patient and dissolved in twenty times its volume of sterilized water. This is then placed in a culture-tube containing yellow-fever germs which have been active and increasing for twenty-four hours. In from five to thirty minutes after the drop of suspected blood, dissolved in twenty times its volume, is put into the culture-tube the germs in the blood become agglutinated and motility ceases entirely, which shows that the blood is that of a yellow-fever patient. If, however, agglutination does not take place, yellow fever is not present. The yellow-fever germ has been found in between 87 and 90 per cent. of the cases in which this test has been employed.

In a valuable monograph entitled "Yellow Fever: its Nature, Diagnosis, Treatment, and Prophylaxis," etc., by Officers of the United States Marine-Hospital Service, '98, R. D. Murray states that, differentially considered, dengue has a demonstrable rash in the fauces always, between the shoulder-blades generally, and often over the big joints and on the trunk. The pains of

²² N. C. Med. Jour., Dec. 5, '97.

²³ Med. News, Feb. 5, '98.

dengue are in the bones and joints. A dengue patient is in pain and cannot lie still—he does not want to get up. Yellow-fever pains, except the head, are in the muscles, and the patient after four or five days is comfortable in bed, but wants to get up and work.

In malaria the symptoms usually appear after some days of malaise, loss of appetite, discontent, and a general tired feeling. Malarial fever nearly always appears in the day-time or when the victim is at work, and is ushered in with a positive chill. Constipation is the rule, but not so marked a feature as in yellow fever. The malarial tongue is swelled, tooth-marked, and heavy coated, with white edge and yellow or dirty top-area. A yellow-fever tongue is rarely indented; the tongue of the former soon shrinks and has a red edge and red tip, the red tip being diamond-shaped. Herpes does not occur in yellow-fever cases; it is common in malaria. This is, however, a late sign.

Etiology.—Eugene Wasdin³⁴ believes yellow fever essentially an air-borne infection, the entrance of which into the system has been supposed to be by way of the alimentary canal, the upper intestine serving the purposes of incubation of the causative germ, the absorption of its poison giving rise to the disease.

More recently it has been advanced that probably the germ of yellow fever enters the general circulation through the respiratory organs in some obscure manner, and, incubating in the blood, directly poisons this life-giving stream.

According to H. R. Carter,³⁵ all places within a yellow-fever infected district, or town even, are not infected or are infected in unequal degrees. The infection is especially confined to the habitations of men and their environment,

and is conveyed a short distance, possibly 220 metres down the wind, from an infected focus. Two hundred and twenty metres is the maximum distance this infection can be conveyed. This observation (Melier's) is altogether exceptional, and less than half that distance covers the distance to which the infection is conveyed from a single focus.

The infection is heavy and hangs and spreads near the ground. It is unable to pass a close wall of any considerable height, although under the shady side of such a wall it may spread well when once started. It seems especially active at night, and certainly, out-of-doors, is less apt to be contracted on clear dry days.

The rate of propagation of out-door infection is increased in cities in dusty weather. Strong, steady winds in clear weather lessen the infection. There is no reason to believe that yellow fever as usually propagated in this country is water-borne—the fresh-water tanks of infected vessels have never been and are not now emptied at our maritime quarantines.

Edwin Klebs³⁶ makes the remark that yellow fever is transported by sick people, not by goods and not by water; the personal contagion is not direct or confined only to a very near contact; the contagion, emanating from a person, must be deposited in his surroundings before it can infect other persons. Disinfection of the sick and their surroundings is fully sufficient to destroy the germs and check the disease.

Bacteriology.—Havelburg,³⁷ having found in necropsies of yellow-fever pa-

³⁴ "Yellow Fever," etc., by Officers of U. S. Marine-Hosp. Service, '98.

³⁵ *Ibid.*

³⁶ Jour. Amer. Med. Assoc., Apr. 16, '98.

³⁷ Berliner klin. Woch., Nos. 23-26, '97.

tients great masses of a special micro-organism in the contents of the stomach, endeavored to isolate it in order to ascertain whether it was pathogenic or not. The alleged yellow-fever bacillus is very small, straight, and is, for the most part, isolated, the cohesion of two organisms being rather rare. The outlines of its extremities are especially well marked. It is easily stained by basic aniline colors, but not by Gram's method. It can be grown on a gelatin plate, forming in twenty-four hours a white spot which in from twenty-four to forty-eight hours becomes larger and assumes the form of a pin's head. The gelatin is not liquefied.

According to Sanarelli,³⁸ there does not exist any lesion truly pathognomonic of yellow fever, although the changes of yellow fever in their entirety constitute an anatomical criterion more clear and better defined than that of the majority of infectious diseases. The cadavers of the victims of yellow fever are either sterile or they are found to be invaded throughout by a mixture of micro-organisms. The specific microbe, to which the name of "bacillus icteroides" has been given, has never been found alone in the autopsies made. It must be sought for in the blood and in the tissues, and not in the gastro-intestinal tube, in which it has never been encountered. In yellow fever, as in typhoid fever, there takes place in the digestive tube an extraordinary multiplication of the coli bacillus, which is found there in a state of almost absolute purity. Upon the result of investigations it may be said the isolation of the specific microbe of yellow fever is possible in only 58 per cent. of the cases. The reasons for this are easy to understand. In the beginning of the disease the "bacillus icteroides" multiplies very

little in the human organism, a very small quantity of its toxin being sufficient to provoke in man the worst type of the disease. In the second place, the toxin, whether by itself or indirectly through the profound lesions it causes, facilitates in an extraordinary manner every sort of secondary infection. The poison of the "bacillus icteroides" instead of being absorbed through the intestinal walls, is fabricated in the interior of the organs and in the blood. This bacillus is a little rod, with rounded extremities, united at best by pairs in cultures and in groups in the tissues, from two to four micromillimetres in length, and generally two or three times longer than it is broad. The best way to demonstrate, not only its presence, but also its special tendency to arrange itself in small groups, preferably in the blood-capillaries, consists in placing in the incubator, at 37° C. for twelve hours, a fragment of the liver taken from a fresh cadaver in order to favor the multiplication of the specific microbe. The yellow-fever bacillus grows sufficiently well in all the ordinary culture-media. In common gelatin it forms rounded colonies, transparent and granular. The granulation of the colony becomes more pronounced, appearing ordinarily as a nucleus, central or peripheral, completely opaque; in time the whole colony grows entirely opaque. It never liquefies gelatin.

The microbe of yellow fever is pathogenic for the greater number of the domestic animals.

Yellow fever progresses in cycles; at first the specific microbe is very scarce in the organs, and it is only at the end of the disease-cycle, whose duration may be established as between seven or eight

³⁸ Med. Rec., July 24, '97.

days, that the microbe multiplies resolutely and suddenly invades the entire organism, accompanied almost always by other microbes, probably of intestinal origin.

The "bacillus icteroides," once in the organism, not only determines a general intoxication, but also produces specific alterations, which have their seat of election, above all, in the kidneys, the digestive tube, and the liver.

The "black vomit" is due to the action of the gastric acid upon the extravasated blood in the stomach. The vomiting itself is directly provoked by the specific emetic action of the toxins of the "bacillus icteroides" circulating in the blood.

All the symptomatic phenomena, all the functional alterations, all the anatomical lesions of yellow fever are but the result of the action, eminently steatogenic, emetic, and hæmolytic, of the substance manufactured by the "bacillus icteroides."

The diffusion of the virus of yellow fever can take place as well by air as by water.

The "bacillus icteroides," whether by the effect of its specific poison or whether through the grave hepatic lesions which are its most immediate consequence, favors at a given moment the entrance into the organism of septic microbes, which not only end the disease much before the specific agent could do it, but are also prejudicial to the latter, invading at once its domains, suppressing its vegetative faculty and even its vitality.

It is on account of this that these phenomena of microbic antagonism between the yellow-fever bacillus and the micro-organisms of septic infections, instead of being useful to the patient, tend to hasten his death.

The probable cause of the mysterious longevity and resistance of the "bacillus icteroides" on board ships is that the common molds of the atmosphere constitute the great protectors of the "bacillus icteroides." In the holds of ships the moist heat and insufficient ventilation should be regarded as indispensable conditions for the growth of the molds, and therefore as indirectly favorable to the vitality of the "bacillus icteroides."

Surgeon-General Sternberg³⁹ says that it is evident from observations that the micro-organism described by Sanarelli is identical with the bacillus X which has been described by the author. Cultures containing the bacillus X produce vomiting, fatty degeneration, and hæmorrhagic enteritis, proving that its action is identical with that of Sanarelli.

E. Klebs⁴⁰ has conducted researches into the anatomical condition of the liver in yellow fever by means of a new method of staining. The sections, which must not be thicker than $\frac{1}{100}$ millimetre, are stained with a solution consisting of 7 parts of the author's para-fuchsin-kresol solution mixed with 3 parts of a concentrated solution of methylene-blue in 5 per cent. borax solution and 3 parts of 1-per-cent. methylene-green. Decoloration is effected carefully by alcohol or by aniline-cil and xylol. The blue color of the section must not be eliminated. In specimens so stained the author finds, between the lines of the bluish tinged liver-cells, intensely-stained red masses, oftentimes forming stripes and masses larger than the liver-cells. The last are transformed and nearly destroyed by fatty degeneration in the median parts of the acini, and compressed by the red

³⁹ Med. and Surg. Reporter, Nov. 6, '97.

⁴⁰ Jour. Amer. Med. Assoc., Apr. 16, '98.

masses, whereas in the centre and peripheral parts only isolated red spots are disposed between the liver-cells. The red masses consist of round, oval-shaped, or irregular balls which will not conglutinate.

With higher powers, one remarks two constituents of these red masses, very deep stained, round, oval, or egg-shaped bodies, and slightly-stained masses, surrounding the first. Oftentimes in one red mass are included two or more of these bodies, somewhat larger than a human red blood-corpuscle, but oval-shaped and of quite homogeneous structure. It is not difficult to demonstrate that the greater, slightly-reddened masses are no other than very enlarged and, in their coloring qualities, deeply-changed leucocytes. Oftentimes they contain the blue-stained nucleus, somewhat altered, elongated, or otherwise deformed. Not all of these red bodies are included in cells, but are found free between the liver-cells, and here the largest forms, which measures more than 13 micromillimetres in length and 12 in breadth, mostly egg-shaped, with one broader and one smaller pole, are found. These contain, mostly, a greater or smaller number of vacuoles and brownish pigment. These larger bodies are not alone situated between, but also in the interior of the liver-cells. The sharply-defined form of these bodies, their different staining, their disposition in the interstitial tissue and in the liver-cells, their forming of vacuoles and pigment in the more advanced stages, certainly indicate them to be parasites of the class of protozoa. In the stomach and duodenum the same oval-shaped and red-staining bodies were always present. Certain blackberry-like forms, circular groups of small round bodies, not present in the liver, are found there also, and

it is suggested that they represent sporulation. It is likely that the source of the disease is, first, a true gastro-duodenitis, remaining such in the milder, lingering, or endemic cases of some countries, but becoming epidemic with the migration of protozoa into the liver.

Pathology.—In the report of the Cuban Commission of Mississippi⁴¹ the diagnostic findings of yellow fever post-mortem were as follow: The skin and sclerotics markedly icteric; usually early ecchymotic spots on the back of the neck, shoulders, and lumbar regions, thighs, calves of legs, and the ears. The abdomen is usually dry, sometimes a little fluid is present; the liver is contracted away from the ribs, of a box-wood color, bloodless, and friable. The gall-bladder is contracted, usually empty, but sometimes containing a thick, tarry fluid. The spleen is normal in size and color. The kidneys are normal, sometimes showing signs of recent acute inflammation. The stomach is usually anæmic, generally shows exfoliated spots where hæmorrhages have occurred, and frequently contains black vomit. The intestines generally contain a pasty-colored material like the stools, only not so black. The mucous membrane of the whole alimentary tract shows the most decided effects of the poison. The heart often shows traces of fatty degeneration.

According to R. D. Murray,⁴² the primary lesion of yellow fever is in the duodenum and the symptoms of the disease follow generally in regular order. If the stools could be all and carefully examined some time a mass of white

⁴¹ Jour. Mississippi State Med. Assoc., May, '98.

⁴² "Yellow Fever," etc., by Officers U. S. Marine-Hosp. Service, '98

mucus with a black or brownish centre will be found.

Prognosis.—Geddings⁴³ states that probably no case of yellow fever can occur without presenting albuminuria at some time, though that time be limited to a few hours, perhaps. The quantity present on first detection, and its increase or diminution from day to day, form, perhaps, a fairly good guide to prognosis. If it appears, increases gradually, and then begins to diminish, prognosis is good. If, on the contrary, it appears at first in large amount, persists or increases abruptly, trouble may be anticipated. The two gravest symptoms that can arise during the course of a case of yellow fever are undoubtedly black vomit and suppression of urine. Partial or complete suppression of urine is of the gravest accident that can happen in the course of yellow fever.

Treatment.—Sanarelli⁴⁴ says that good results from serum-antiamari are difficult to obtain if the treatment be applied when the disease is already advanced, when the "amarillic" poison largely accumulated in the organism has already induced those grave anatomical and functional changes which the serum cannot undo and which of themselves suffice to cause death. We must for the present, therefore, restrict our application of the serum exclusively to the first period of the malady. It can be injected into patients in the desired quantity up to the moment when all hope of success is not yet definitely abandoned. One should begin with a dose of 20 cubic centimetres, and, if appreciable improvement fail to set in, a second, a third, and even further doses may be injected, always being guided by the patient's resisting power, or his general condition, or the "period" of the malady, or the complications. The injections

must be practiced subcutaneously in the region of the thighs or nates, but in urgent cases it is preferable to introduce the serum directly into the veins. These injections must be practiced under antiseptic safeguards of the most stringent kind.

E. K. Sprague⁴⁵ remarks that the apparent lack of success that has thus far attended the treatment of yellow fever with antiamarillic serum constitutes no argument against the bacillus as the cause of the disease, as there are yet many diseases in which the microbic cause is incontestably established, but for which we are still unable to procure a specific curative serum.

H. M. Folkes⁴⁶ says that a case of yellow fever can be treated in a room in a crowded hotel, and by taking the following sanitary precautions no other guest in the place need become infected: Over the windows should be placed a double thickness of mosquito-netting or some such material, kept constantly moist with a 1-to-500 bichloride solution. The patient's gown and bed-clothing should be removed twice daily, immediately putting the same in a 1-to-500 bichloride solution, and a rubber sheet placed next to the mattress. The fewest possible things should be allowed in the room, and these are to be wiped with bichloride solution once daily. All dejecta, sputa, etc., from the patient are to be placed in the same solution, and all cups, towels, glasses, etc., are to be treated in like manner. The nurse should stay in the sick-room, or else,

⁴³ Annual Report Marine-Hosp. Service, '94; "Yellow Fever," etc., by Officers U. S. Marine-Hosp. Service, '98.

⁴⁴ Lancet, Mar. 26, '98.

⁴⁵ "Yellow Fever," etc., by Officers U. S. Marine-Hosp. Service, '98.

⁴⁶ Ga. Jour. Med. and Surg., July, '98.

when going out, she should take a bichloride bath, if possible, and put on sterilized clothing all over,—her shoes included,—unless she is simply leaving for a few minutes, in which case she should take the same precautions as the physician.

The physician should always put on a cotton gown wet with the same solution before going in the sick-room; this is to be removed when he comes out, and his hands and face should receive a formaldehyde or bichloride bath at once.

On recovery or death of the patient, if the room and its contents are thoroughly disinfected it will positively prevent a spread of the fever.

H. D. Geddings⁴⁷ believes that the treatment of yellow fever should be symptomatic and directed toward meeting plain and specific indications. For the initial stage, as well as for properly initiating a systematic treatment, administering a hot foot-bath containing mustard is excellent. As soon as the patient is made comfortable in bed, a sharp purge, preferably mercurial, should be given; calomel, 5 grains; compound powder jalap, 10 grains; administered in capsules found most efficient. Should this fail to move the bowels freely within six or eight hours it may be followed by a moderate dose of castor-oil, a Seidlitz powder, or a bottle of citrate of magnesia.

Closely following the first purgative should be administered one of the coal-tar febrifuges; phenacetin, $7\frac{1}{2}$ grains, or antipyrin or antifebrin, 10 grains, either of which may with advantage be combined with $1\frac{1}{2}$ to $2\frac{1}{2}$ grains of citrate of caffeine. Repeated doses of the antipyretic are not needed, nor, indeed, indicated. One, two, or, at most, three doses in the first twenty-four hours of the disease will accomplish all that

is to be gained from this series of remedies.

The gastric irritability may be controlled by sinapisms to the epigastrium, abstention from fluids, and frequent ingestion of small pieces of ice. Should nausea or vomiting persist, the administration of cocaine hydrochlorate, in doses of $\frac{1}{4}$ to $\frac{1}{2}$ grain every hour or two, will often act almost magically. Small quantities of carbonated beverages, as Vichy, seltzer or apollinaris water, ginger-ale, or very dry champagne, administered ice cold, will often prove of service. Considerable relief is also derived from the application to the epigastrium of a liniment composed of olive-oil and menthol.

R. D. Murray⁴⁸ gives three or four compound cathartic pills at once and as soon as possible, a hot foot-bath, with or without mustard and salt. As soon as possible, if fever is above 102° , any coal-tar derivatives in $7\frac{1}{2}$ -grain doses, with some bicarbonate of soda and caffeine to be given. After the bath and a good sweating, under blankets, for from four to six hours, the patient should be rubbed dry and covered with two blankets. The coal-tar derivative should be repeated every three to six hours if fever keeps above 102° . Orange-leaf tea, apollinaris water, lemon-grass tea, hot lemonade, ginger-ale, small sips of ice water, and other drinks may be given *ad libitum*. No spirits of any combination should be given. If the bowels are not freely and comfortably relieved within six hours, a small saline is administered. After thirty-six hours an enema should be given every day.

⁴⁷ Annual Report Marine-Hosp. Service, '94; "Yellow Fever," etc., by Officers U. S. Marine-Hosp. Service, '98.

⁴⁸ "Yellow Fever," etc., by Officers U. S. Marine-Hosp. Service, '98.

H. D. Geddings⁴⁹ states that when "black vomit" appears the treatment should be directed toward the general hæmorrhage diathesis. The most efficient remedy is found in the tincture of the perchloride of iron, 15 to 30 grains every hour or two, or, if the vomiting is frequent, after each act of emesis. Counter-irritation to the epigastrium, the administration of stimulants, preferably champagne or good brandy, administered in carbonated water and given cold, swallowing of ice, and administration of cocaine make up about the sum of remedial agents.

In suppression of urine, counter-irritation over the region of the kidneys with turpentine or mustard, dry cups, the application of hot-water bags, all should be tried. A *tisane* of watermelon-seed is efficacious alone or given in combination with spirit of nitrous ether.

Frequent washing out of the lower bowel with enemata of warm water and soap is very important. A well-oiled rectal tube should be passed as far up into the bowel as possible, and with a fountain-syringe elevated not more than a foot or two 2 or 3 pints of warm, soapy water should be slowly forced into the bowel. In malarial regions it is a good practice to administer 30 to 45 grains of quinine or cinchonidia in the first twenty-four hours, exhibiting the drug per rectum if the stomach is irritable.

As regards diet, Geddings thinks that the yellow-fever patient should be well nourished, but the most scrupulous care should be exercised in the selection and administration of food. "A little and that often" should be the rule. For the first few days milk with lime-water given cold, then animal broths, concentrated, but free from fat, should be the regimen. The fever being reduced, soft-

boiled eggs, milk-toast, and small bits of the white meat of chicken and tenderest steak may be permitted. Probably at least ten days or two weeks should elapse before the convalescent, by the easiest stages, should be permitted to resume ordinary diet.

Prophylaxis.—H. R. Carter⁵⁰ states that as far as the selection of a living place is concerned, non-infected location, as far from any known focus of infection as possible, or residence portion of the town liable to be or become such a focus, should be preferred. It should, if sufficient distance be unattainable, be to the windward (prevailing wind) of such portion of the town or separated from it by trees, etc., and be located on high, well-drained ground, as much exposed to wind as possible, and not so shady as to be damp. The place chosen for residence should be kept dry by means of ditches. It should be kept very clean, and free from vegetable as well as animal matter, decaying leaves and wood, especially sawdust. The houses should be preferably built of wood with free circulation of air under them, light and wind penetrating everywhere. Articles stowed away and handled in the non-resident portion (business district) of the town are little liable to be exposed to infection. The capability of an article to retain infection depends upon the nature of its exposed surfaces. If these be hard, smooth, and non-absorbent, the article will be little likely to convey infection. Household goods are most exposed to infection and should be burned.

One should not enter houses unneces-

⁴⁹ Annual Report Marine-Hosp. Service, '94; "Yellow Fever," etc., by Officers U. S. Marine-Hosp. Service, '98.

⁵⁰ "Yellow Fever," etc., by Officers U. S. Marine-Hosp. Service, '98.

sarily; should not go out of uninfected quarters at night; should not receive or come in contact with any fabrics or household goods about the exposure of which to infection there is doubt.

There are certain personal factors affecting susceptibility which we cannot influence, and yet of which we may avail ourselves advantageously, as

(a) The lessened susceptibility of the negro race.

(b) The lessened susceptibility of those living for years (better for generations) under the conditions which obtain in the tropics.

Thin, spare, vigorous men are less liable to develop the disease, and bear it well.

Most potent auxiliaries to an infection are,

1. A sudden chilling of the surface, especially if wet with perspiration.

2. Excessive exposure to the direct rays of the sun.

3. Excessive physical fatigue.

4. Anxiety and mental distress generally, especially fear of the disease.

The constipation nearly always associated with the advent of the fever probably has an etiological influence.

A meat diet is claimed to increase the susceptibility to the disease, as well as to make it more severe. The same is true of alcoholics. The free use of water and a diet of juicy fruits and fresh vegetables, should put a man in a better condition to go through the disease and probably lessen his chance of developing it.

To avoid chilling the surface, flannel should be worn.

When the disease has invaded a town, the author argues that if there be but few foci, and these be known, the chances of suppressing the fever are

good. If, in addition, all who have been exposed to infection are known and can be properly provided for, the chances of success in arresting the disease are greatly increased.

If the fever be confined to one section of the town, even if pretty general therein, it may be possible to so isolate that part as to preserve the remainder. The patient should, if possible, be moved to an isolated place or a well-appointed hospital. Removal during the first forty-eight or sixty hours prior to the "stage of calm" is not specially injurious. After that time it is to be deprecated. If the patient is moved, all possible precautions to prevent infection of his new quarters must be taken. Cleanliness, dryness, good ventilation, and sunshine are all important. No fabrics, carpets, hangings, etc., not absolutely necessary should be allowed in the room. The clothing, bedding, etc., which go with him if moved must be immediately disinfected. A rubber sheet to protect the mattress must be placed on the bed. The bed-linen and shirt must be changed daily, oftener if soiled; and the rubber sheet be changed when necessary. All fabrics used about the patient should at once be put into an antiseptic solution. This should be done in the patient's room and the floor should be wiped up daily with a similar solution. All excreta should be disinfected or destroyed. The physician should wear linen or other smooth clothing, or change it if he goes out. These precautions are recommended only when there are very few patients and every real risk, however slight, is to be avoided. Until premises are released from observation they must be under guard. The premises adjacent to those of the patient which from propinquity, communication, or direction of wind can reason-

ably be judged to have received infection are also to be disinfected.

The inmates of the house of the patient (unless immune to yellow fever) should be removed from the house, all clothing, etc., disinfected and kept under observation—"quarantined," in a place free from infection and so situated that if any of them sickens he may not establish a focus of infection dangerous to the community.

It is to be noted how rarely people taken from infected premises and placed in camps, or under the conditions of camp-life, develop fever.

When the fever cannot be suppressed, the providing of a legitimate means of egress, if safe, is an added safeguard, and an important one, against the infection of clean territory.

Stress should be laid on early depopulation. Classes who may leave are those who have been certainly not exposed to infection. The others may go (1) directly to points incapable of receiving the infection of yellow fever, generally northern points—high altitudes—to remain there indefinitely, or for a time to cover their incubation; (2) to points capable of receiving such infection but through a camp of detention.

There seems no reason why baggage going north should be disinfected. Indeed, there are good sanitary reasons for not doing so. Every obstruction, however slight, put in the way of people leaving an infected town to some extent prevents their leaving and to a disproportionate extent induces them to put off leaving. The sooner they depart the better.

W. F. Brunner⁵¹ recommends that businessmen leave the city every afternoon before sunset and spend the night at some of the small towns near by, returning next morning after sunrise to

pursue their different callings. In a seaport or in a town on a river persons should be prohibited from sleeping near the wharf or river-front.

Care should be taken to sterilize all clothing and material in an infected room and to thoroughly disinfect the room and contents after recovery or death of the patient. One of the principal precautions to be taken is in the matter of clothing. Flannel, light in texture and color, is the best material.

Wasdin⁵² claims that the observance of the rules for personal cleanliness is imperative. All undue fatigue should be avoided, and the question of suitable clothing carefully considered. The greatest regularity in taking meals should be observed and the use of boiled water is advisable. Alcoholic beverages to one unused to them are harmful; to those habituated, their use in moderation seems necessary. The use of internal medication to ward off this disease is useless. The hygiene of environment is the more important. One should select a dry, well-drained abode, to which sunlight has free access, and which can be thoroughly ventilated. One should live such a way that the precautions suggested above may be intelligently exercised, and he will have done all that a sound mind within a sound body can do.

Seaton Norman⁵³ thinks that the advisability of depopulation depends upon the size of the town or village, the density of the population, and the number exposed.

J. H. White⁵⁴ recommends the following method of disinfection:—

⁵¹ "Yellow Fever," etc., by Officers U. S. Marine Hosp. Service, '98.

⁵² *Ibid.*

⁵³ *Ibid.*

⁵⁴ *Ibid.*

1. Apartments or dwellings infected with yellow fever to be disinfected by one or more of the following methods:—

(a) By a thorough washing of all surfaces of apartments with an efficient germicidal solution.

(b) By sulphur dioxide for twenty-four hours' exposure, 4 pounds of sulphur for each 1000 cubic feet, plus due allowance made for waste.

(c) By formaldehyde-gas in not less than a 4-per-cent. per-volume strength, and not less than six hours' exposure.

[One litre of 40-per-cent. solution of formaldehyde-gas will evolve about 1.425 litres (50.1 cubic feet) of gas at 20° C. (68° F.).]

2. Grounds, out-buildings, etc., deemed to be infected, to be disinfected with a strong solution of crude carbolic acid (carbolic acid, crude, 2 parts; sulphuric acid, 1 part; water, 25 parts) or an acid solution of bichloride of mercury (1 to 500); disinfection of ground, preferably by fire.

3. Bedding, wearing-apparel, carpets, upholstered furniture, and the like to be disinfected by one or more of the following methods:—

(a) By steam at a temperature of 212° to 216° F.; thirty minutes' exposure.

(b) By boiling, all parts of the articles to be surmerged.

(c) By saturation in an efficient germicidal solution.

(d) By thoroughly wetting the surfaces of articles with a 40-per-cent. aqueous solution of formaldehyde, and placing them in a closed space for not less than twelve hours.

(e) Where surface-disinfection is required, formaldehyde-gas of not less than a 4-per-cent. per-volume strength and not less than six hours' exposure, or

by sulphur dioxide for not less than twenty-four hours.

4. The dejecta from cases of yellow fever to be disinfected by an efficient germicidal solution.

Mails to be disinfected by one of the following methods:—

(a) By formaldehyde-gas.

(b) By sulphur dioxide.

(c) By steam.

(Newspapers must be made up in such packages as shall be penetrable to the disinfectant used.)

Articles injured by steam, such as rubber, leather, and containers, to which disinfection by steam is inapplicable, to be disinfected:—

(a) By thoroughly wetting all surfaces with an efficient germicidal solution, the articles being allowed to dry.

(b) By exposure to sulphur dioxide.

(c) By exposure to formaldehyde-gas.

The application of gaseous disinfection to these articles should be made in a closed space, air-tight, or as nearly so as possible.

The following are considered efficient germicides:—

1. Bichloride-of-mercury acid, 1 to 1000.

2. Carbolic acid, pure, 5-per-cent. solution.

3. Trikresol, 2-per-cent. solution.

4. Solution of formaldehyde, 1 to 500 (which is 1 part of a 40-per-cent. solution of formaldehyde to 199 parts of water).

5. Solutions of hypochlorite of calcium (chloride of lime).

Post-epidemic Disinfection.—In the work of post-epidemic disinfection, Surgeon-General Walter Wyman⁵⁵ instructs

⁵⁵ "Yellow Fever," etc., by Officers U. S. Marine-Hosp. Service, '98.

his officers to carry out the following measures:—

(a) The medical officer in command shall make, or cause to be made, house-to-house inspection of all infected localities, and obtain complete lists (giving number and street when practicable) of all buildings in which yellow fever occurred or where suspicious disease existed during the past summer and fall.

(b) This inspection should be made by competent sanitary officers, under direction of the medical officer in command, and every part of the premises must be carefully inspected.

(c) The inspection includes the inspection of all streets, alleys, and by-ways.

(d) The inspection should include an examination into the water-supply.

A complete list to be made of all persons exposed to, or who may have contracted, the disease, with the result in each case.

It is recommended that after the inspection above provided for has been made the medical officer shall designate a competent sanitary officer to perform the thorough disinfection and cleansing of all houses and premises which he may have decided require the same, said disinfection to begin as soon as practicable

after the inspection referred to has been made in any locality.

It is recommended that the removal of all refuse, garbage, and other deleterious matter be included in the work of disinfection.

It is recommended that the inspectors inform all parties whose houses are visited that no injury to their houses or contents will result from the disinfection contemplated, and that it is absolutely necessary for the protection of themselves and the community in which they live.

The use of formaldehyde-generators or lamps is recommended for the disinfection of houses and their contents.

Both before and after disinfection the houses should be opened and thoroughly aired—"chilled," if the weather is favorable—and later on all the rooms, closets, etc., should be exposed to several hours' airing during freezing weather, and repeated at intervals during the winter.

Stables, pens, etc., can be disinfected by the use of bichloride-of-mercury solution, 1 to 500, or carbolic-acid solution, 50 parts to 1000 parts (applied by means of a spray), if all exposed surfaces are completely saturated. Privies may be disinfected by chloride of lime or strong solution of carbolic acid.

Cyclopædia of Current literature.

ABDOMINAL SECTION.

Intestinal paralysis or obstruction is more often the cause of fatal sepsis, either wholly or in part, than *vice versa*, in many cases the septic matter finding its way through the stretched intestinal walls. Exposure of the peritoneum, handling of the viscera, production of raw surfaces, and leaving dead matter

(bloody oozing and *débris*) are followed by intestinal adhesions in from 12 to 36 hours, and these adhesions produce more or less intestinal paralysis and sometimes obstruction. On the day before a peritoneal section, the patient should be purged sufficiently to reduce the gaseous distension of the intestinal coils (that they may be kept out of the way during

the operation), obtaining as many as six or eight large stools, while patients of relaxed fibre should receive full doses of strychnine from the time they come under observation. Two hours before the operation 2 teaspoonfuls of the fluid extract of cascara are given. Immediately on awaking from the anæsthetic the patient receives a drachm of magnesium sulphate every hour; at the end of six hours a stimulating enema is administered and repeated till gas passes between enemas; then the saline is discontinued. In simple operations where undue haste is not necessary the salines and enemas are given a little later.. The author presents as presumptive proof of the value of this method a record of 105 consecutive recoveries after peritoneal sections since its adoption. H. T. Byford (*Amer. Jour. of Obstet.*, July 1, '98).

ADENOID VEGETATIONS AND DEAF-MUTISM.

A subject of absorbing interest is the relation that apparently exists between deaf-mutism and the presence of adenoids. Thus, one observer found adenoids in 59 per cent. of the boys and girls who were deaf-mutes. It is probable that, if sufficient attention were given to adenoids in early infancy, a material diminution in the number of these unfortunates would result. E. Fayette Smith (*Phila. Med. Jour.*, July 9, '98).

ADENOIDS, POST-NASAL.

Diagnosis.—In nine-tenths of the cases of mouth-breathing children the lesion will be found to be either enlarged faucial tonsils or post-nasal adenoids, or a combination of both. These conditions must be excluded before the case is put down as nasal catarrh. The symptoms in these cases are always pretty

much alike—usually anæmic and ill-nourished, the child breathes partially or wholly through the mouth, catches cold at all times, suffers from impaired hearing, oftentimes earache; is croupy, with more or less bronchial catarrh through the winter. Such general symptoms as these always indicate more than simple nasal catarrh. The diagnosis is very easily made if one looks into the anterior part of the nose. Although there may be accumulated nasal secretions, no deviation of the septum and no hypertrophy sufficient to occlude the nostrils will be found. Enlargement of the middle turbinated is very rarely a factor in children; so at once one is brought back to the vault of the pharynx as the source of trouble. From clinical experience it can be stated that there is more or less enlargement of the third tonsil in all these cases. Great enlargement of the faucial tonsils occurs more rarely than in former years, but moderate enlargement of the post-nasal tissue is just as frequent.

Diagnosis of post-nasal adenoids and faucial tonsils can frequently be made with Munger curette, which is much more easily introduced than the finger, and anybody who is accustomed to its use can quickly determine whether an enlarged tonsil exists. If the curette is introduced into an adult pharynx the surface will feel as smooth as glass, and it is not possible to sink the point of the curette into the tissues. It is difficult even to scarify a normal post-nasal space, because the surface is so hard and slippery. It is quite different in a vault filled with enlarged adenoids. When the point of the curette reaches this tonsillar enlargement, it will be felt to be soft and spongy, the point of the curette is easily pushed into it, and resistance is felt when one attempts to push the

curette downward. This makes the diagnosis certain. Rice (*The Canada Lancet*, Aug., '98).

ALGINATE OF IRON.

Alginic acid is a new organic acid obtained from algæ. It is a nitrogenous body, and as first isolated it forms a light-brown, gelatinous substance. Alginic acid combines with almost all the bases to form compounds, soluble and insoluble. In addition to these compounds, alginic acid combines with many alkaloids, forming soluble films which may have a very extensive and useful application in the field of medicine. All of the alginate salts are little acted on by pepsin, and therefore pass through the stomach almost unaltered—a point of great practical importance in the therapeutic application of some of them.

Alginate of iron is a tasteless, brown, insoluble powder. Compared with the albuminous ferric compounds, the proportion of iron is large, viz.: 10.92 per cent. The alginate of iron is best administered in a fine powder in doses of from 10 to 15 grains, given thrice daily. Unlike the majority of iron preparations, the alginate has no astringent effect; thus the alginate of iron is a compound containing an unusually large percentage of the element in a very assimilable and active form. Perhaps the fact that it is little acted on by gastric digestion accounts for the tolerance which the stomach exhibits toward it. Indeed, in the majority of instances it proves a gastric sedative, and although given in large doses, instead of inducing or increasing, it diminishes, constipation. William Maclellan (*Glasgow Med. Jour.*, July, '98).

ANIMAL EXTRACTS.

A possible danger to health may be incurred in the use of thyroid and thy-

mus glands, that may be sold by butchers under the name of "sweetbreads." The writer has made some investigation of the subject and finds that there is a confusion of terms, intentional or otherwise, in the minds of the sellers of meat. He says: "In talking to a butcher I was surprised to hear him say that there were three sweetbreads in an animal. I asked him where they were situated, and he told me at the root of the neck, in the cavity of the chest, and in the belly of the animal. I questioned him more closely and discovered that his three sweetbreads corresponded respectively to (1) the thyroid gland; (2) the thymus gland; and (3) the pancreas. To make quite sure that no mistake has been made, I watched him, a day or two after, kill and cut up a bullock. The thyroid gland in this animal is situated low down at the root of the neck, over the trachea. The thymus (which he told me was bigger in the calf than in the bullock) is placed in a somewhat similar position to where it is in man; while the pancreas (the most important organ) he regarded as the least significant, and told me it was 'given in with the liver.' He told me, moreover, that if he were asked for calf's sweetbread he would always give (what we call) the thyroid and thymus glands. It seems only right for every physician to be on his guard when ordering 'sweetbreads' for his patients that the pancreas be provided, and not these other glands. An undercooked calf's thyroid gland being repeatedly given in the place of a real 'sweetbread' might produce untold mischief in a patient, as well as perplex the mind of the prescribing practitioner in a peculiar and undeserved manner." Parry (*Canada Lancet*, July, '98).

Whereas some patients can take large doses of thyroid with impunity, others

are injuriously affected by small amounts, and one should begin with a minimum dose,—say 3 grains daily,—and increase it very slowly, watching the heart and kidneys carefully. In cases of bleeding fibroids, thyroid has an influence toward checking the loss of blood, and in certain cases it is followed by diminution in size of the growth. Its use in appropriate doses is followed by improvement in the general health, probably due to the cessation of loss of blood. Nine to 15 grains is the maximum dose, 1 to 5 grains three times a day. The average duration of treatment, nine weeks. W. E. Moseley (*Med. News*, July, 9, '98).

BLENNORRHAGIC ARTHRITIS.

Treatment.—It is advisable in all acute inflammations of the joints to examine the urethra. In 90 per cent. of the cases urethritis will be found. The cases may be divided into four groups: First, where effusion alone occurs; second, where there is formation of fibrin and thickening of the capsule; third, periarticular plegmon with impairment of the action of the tendons and elasticity of the ligaments; fourth, where ankylosis occurs very early. The puncture of the joints and the injection of a solution of carbolic advised. If there is a periarticular affection, the joint should be opened and washed out. König (*Sammlung. klin. Vorträge*, No. 170, '96; *Boston Med. and Surg. Jour.*, July 7, '98).

BOILS, CARBUNCLES, AND FELONS.

Treatment.—The occurrence of suppurative processes should always be regarded as evidence of faulty metabolism, and search should be made to discover and rectify what is wrong. Patients with boils, carbuncles, and felons are

never in perfect health, although it is extremely difficult at times to discover the cause on which the trouble depends. Iron is most commonly needed, but quite as often there will be digestive and assimilative difficulties. In the local treatment of the disease, the objects aimed at are, first, the protection of the inflamed area; second, exclusion of the air; third, a slight antiseptic action. To obtain this end the inflamed surface is covered with a thick layer of absorbent cotton, on the center of which is smeared an ointment of carbolic, ergot, zinc oxide and powdered amyl, made up with an unguent of rose. When pus is present, the skin is left to part spontaneously. The ointment is applied constantly until the carbuncle heals.

In felons, the diachylon, or litharge, ointment, prepared according to the formula of Hebra, is employed; the pain grows less, and the patient's general condition rapidly improves, and the lesion in the finger terminates in a short time in resolution. L. Duncan Bulkley (*Brit. Med. Jour.*, Oct. 2, '97).

BRIGHT'S DISEASE.

Treatment.—There is a good deal of mischief done by iron in Bright's disease. Basham's mixture in Bright's disease was never suggested for any directly curative purpose, but simply as a remedy for the anæmia which is so conspicuous a symptom in many cases, and for this purpose it still is and always will be useful. But not every case of Bright's disease is anæmic, and as iron has no specific curative effect it is clearly not indicated in non-anæmic cases. Nay, more, it is often harmful. It may be laid down as a rule to which there is almost no exception that iron is not indicated, and should not be prescribed in cases of acute Bright's disease. On the

other hand, after the acute symptoms have passed away and convalescence sets in iron is often very useful.

A second class of cases in which iron is contra-indicated is chronic interstitial nephritis, in which it is more promptly and dangerously harmful than in any other form known of Bright's disease.

The form of Bright's disease in which iron is best borne is chronic parenchymatous nephritis. And as this is apt to be associated with more or less anæmia it becomes a most valuable remedy in overcoming this symptom. Even here the doses given are usually needlessly large. The author's practice is to determine the proper dose by an examination of the stools, and if these are decidedly blackened, too much is being given. On the other hand, a slight coloration may be permitted. Basham's mixture is no more diuretic than the bulk of water which constitutes its menstruum. James Tyson (*Jour. Amer. Med. Assoc.*, July 23, '98).

CHLOROSIS.

Treatment.—One of the most promising recent advances in the treatment of obstinate cases of chlorosis is diaphoresis. Better than the dry, hot-air baths for this condition are the hot-water baths. A characteristic symptom in most chlorotics is pain between the shoulder-blades. The erector spinæ muscles suffer from the act of keeping the patient erect. The reflex action of the hot baths causes more blood to be brought to the muscles and relieves this muscular discomfort. A bath at 105° F. with a wet towel wrapped around the head is given for one-half to three-fourths of an hour. This causes plentiful perspiration during the bath. It is followed by a cold douche to prevent

COLOTOMY AND COLOSTOMY.

further perspiration, which would be exhausting. A bath is given three times a week for three to four weeks. Rosin (*Med. News*, May 14, '98).

COLOTOMY AND COLOSTOMY.

Colostomy consists in bringing the descending colon up to the anterior abdominal wall, to which it is stitched, the opening into the lumen being made at once or after an interval, according to circumstances.

The great disadvantage of this operation is that it does not entirely prevent the entry of fæces into the distal part of the bowel, where they tend to set up inflammatory troubles. In colotomy, the gut is cut completely across, the proximal portion brought out of the wound, and the distal closed by sutures and returned to the abdomen. This method is not entirely satisfactory, as the distal end tends to become distended by the accumulation of its own secretion, which may eventually lead to ulceration. König and Sonnenburg leave the upper extremity of this portion open and attach the artificial anus to the abdominal wall below, whereby the rectum can, if desired, be irrigated from above. Another means of preventing fæces from getting into the rectum is by the formation of a spur, but the disadvantage of this method and colotomy is that they leave a long and freely movable colon and mesocolon. The best method consists in the ordinary operation of colostomy performed at one sitting, but preceded by partial occlusion of the distal portion of the bowel. A ligature is tied around this, occluding it to about one-half its diameter, and the bulging serous surfaces on either side are sewn together with interrupted stitches. An artificial constriction is thus produced, which prevents the accumulation of fæces in the rectum. In attaching the

gut to the belly-wall, first sew the serous and muscular coats of the intestine to the parietal peritoneum, and then pass the ordinary sutures through both bowel and abdominal wall. If, however, this will lead to considerable tension, attach the intestine to the fascia of the external oblique, leaving the skin free, but shutting off the muscular planes from the risk of infection. Mosetig-Moorhof (Wiener Med. Presse, No. 3, '98).

CONDURANGO.

Condurango-bark, which has been extolled for the treatment of various gastric affections, and particularly in gastric cancer, exercises a peculiarly-calmmative effect on gastric pains in the dose of 7 $\frac{1}{2}$ to 12 grains powdered condurango daily, in pill form. It has also been observed that the pains and vomiting of round gastric ulcer, which had resisted cocaine, rapidly ceased on administering 2 $\frac{1}{4}$ grains, four times a day, in pill form. Lemoine (Sem. Méd., vol. xviii, p. 110).

CONVULSIONS, INFANTILE.

Etiology.—Alcoholism on the part of the nurse is a competent cause of convulsions in a breast-fed child; such convulsions are preceded by nervous irritability, general hyperæsthesia, but without gastro-intestinal derangement, elevation of temperature, or pulmonary complication. They are apt to appear in extremely well-nourished children. As regards the fits, they show marked tendency to increase in number and severity. In some instances there may be anuria. Under such circumstances it is necessary to inquire carefully into the habits of the nurse, and to make a change as early as possible. Meunier (Jour. de Méd., April 25, '98).

DYSENTERY.

Acute tropical dysentery treated with very satisfactory results by the administration of ammonium chloride. The salt was given in drachm-doses every four hours, and the patient placed on milk-and-arrowroot diet. In the majority of cases blood was absent from the stools on the third or fourth day. Ipecac is useless in the treatment of tropical dysentery, and opium should never be given in the early stages; its beneficial effects are only seen in the last stages when combined with cannabis Indica, and when other drugs have failed. J. W. S. Attygalle (Brit. Med. Jour., No. 1949, p. 1197, '98).

ENTEROCLYSMS.

All the necessary apparatus is a rubber rectal tube and a fountain-syringe, or a funnel. A rectal tube of soft rubber, having rather thick walls, and measuring two feet in length by three-eighths inch in diameter, is preferred. The surface of the tube is made very smooth, and the tip is rounded and slightly tapering, and has a terminal opening. The reservoir is usually placed at a height of four or five feet, and the tube is introduced a distance of eight inches. A child is usually given an enteroclysm of 1 pint, an adolescent one of 2 pints, and an adult one of 3 or 4 pints. Ten minutes are usually occupied in administering the enteroclysm, and the fluid should be retained for a like period. The occurrence of colic is an indication of the presence of gas, of the use of too large a quantity of fluid, or of its too rapid introduction. Experiments on the bodies of four children to determine how far up the intestinal tract these injections go showed that there was no difficulty in causing the fluid to pass through the ileo-cæcal valve into the

small intestine, and even out through the mouth and nose.

The following are the conditions in which enteroclysms are chiefly useful: Obstinate and long-standing constipation; autointoxications due to decomposition of the intestinal contents; many forms of irregular gout; cases of chlorosis in which fæcal anæmia is a prominent element; progressive pernicious anæmia occurring without obvious cause; diabetic and uramic conditions; cholera; typhoid fever in the early stages; pseudomembranous colitis, and insolation. Judson Daland (*Phila. Med. Jour.*, July 9, '98).

EXOPHTHALMIC GOITRE.

Treatment.—Good results obtained from the use of the constant galvanic current in the treatment of Basedow's disease. The exophthalmus diminished or disappeared, the general condition improved and there was diminution of the disordered cardiac innervation, and in volume of the hypertrophied thyroid body. Bertran (*Arch. de Ginecol., Obs. y Ped.*, No. 5, '98).

FALLOPIAN TUBES, DISEASES OF.

Diagnosis.—Pyosalpinx is to be suspected if dilatation of the tube follows gonorrhœal infection and if the tumor is very closely adherent. Hydrosalpinx and pyosalpinx are usually double, while hæmatosalpinx is unilateral. If the tubal mass is of large size and there is no extensive adhesion, there is probably a hydrosalpinx; pressure is less painful than in the case of pyosalpinx. While the tumor is still movable it may be mistaken for a small ovarian cyst, and especially for an intraligamentous cyst. The latter, however, is more decidedly lateral, and is not usually separated from the uterus by the space cor-

FALLOPIAN TUBES, DISEASES OF

responding to the pedicle of the tubal cyst. The differential diagnosis from tubal pregnancy in the first four months is almost impossible to make with certainty.

In the majority of cases where these fætal cysts have been removed, the operation has been undertaken for supposed salpingitis. Enlargement of the uterus and expulsion of a decidual membrane are the only diagnostic sign and symptoms. An inexperienced examiner is very apt to mistake a large serous or bloody cyst for uterine fibroma, and it is, indeed, often very difficult at first to distinguish the one from the other. But the uterine sound, carefully used, will show a great increase in the uterine cavity, when there is a fibroid, and a normal cavity in the case of the tubal affection.

The differential diagnosis between a large cyst of the tube and a fibrocystic tumor of the uterus is in some cases almost impossible; yet the increased size of the uterine cavity, as demonstrated by the use of the sound, will determine the question.

Special attention is directed to some points that are not dwelt on by authorities. Case of woman who suffered with pain in her pelvis. On examination uterus found retroverted and a mass on each side. It seemed as if the tubes were distended, so an operation was advised for the removal of the tubes. When the abdomen was opened instead of the tubes being distended they were normal in size. Both ovaries, however, gave indication of chronic ovaritis, and the supposed tubal affection proved to be a portion of the intestine occupying the sac of Douglas and containing two fæcal masses, occupying the position where distended tubes are usually found, overlapped by the uterus. Both ovaries were

removed, the adhesions separated, and the uterus returned to its normal position; but during her convalescence the patient was treated for ptosis, or prolapsus, of the bowel. William H. Skene (Brooklyn Med. Jour., Aug., '98).

Prolapsed intestine and varicose veins have led the writer astray on several occasions. They no longer do so, for such patients are examined in the exaggerated Trendelenburg or exaggerated knee-chest position, when the tumor disappears. Placing the patient in either of these positions, a little pressure will raise the intestine sufficiently far up to know that it is not a tube, or it will sometimes slip out of the pelvis of its own accord. If there are many adhesions this will not take place, but the contents of the intestine can be pressed up out of the pelvis, so that the distended canal collapses and shows that it is not a tube. Placing the patient in this knee-chest position or the exaggerated Trendelenburg position, any present disappear, and the differential diagnosis is made in that way. A. J. C. Skene (Brooklyn Med. Jour., Aug., '98).

GASTRO-ENTERITIS.

Treatment.—For infants suffering from gastro-enteritis due to milk infection, Dr. Wells advises absolute starvation for twelve hours,—no food of any kind being allowed during this period; cold boiled water, however, should be freely given, to which, if the child is very weak, from 10 to 15 drops of good whisky or brandy may be added. Copious irrigations of the lower bowel with boiled water containing a drachm of salt to the pint, are employed, one quart being used for each irrigation; these are best given through a catheter or small rectal tube. If there is much vomiting the stomach should be washed out with

sterilized boric-acid solution. It is well to give a small quantity of strychnine ($\frac{1}{120}$ grain) or other cardiac stimulant, hypodermically, just before lavage is performed. At the expiration of twelve hours, if the vomiting has ceased, and the stools look more natural, from $\frac{1}{2}$ drachm to a drachm of expressed beef-juice or liquid predigested food may be given every two hours. After that, if the infant has been bottle-fed, it is placed upon a modified milk diet. Breast-fed babies should be taken from the breast, and treated in all respects like those upon an artificial diet. The mother must be cautioned to bathe freely and before and after each nursing to wash the breasts and nipples with a strong solution of boric acid and water. Too much stress cannot be placed upon this injunction, since the mother's milk cannot fail to become infected the moment it reaches an unclean nipple. Charlotte C. West (Phila. Polyclinic, Aug. 6, '98).

GENU VALGUM.

The variety observed in the explanations given by different surgeons as to the origin of "knock-knee" is very puzzling to students, and moreover less misleading to practitioners. Experience will lead to recognition of various factors, which may be classified as follows: Changes in the soft parts,—for example, ligaments,—and softened and thickened epiphyseal cartilages; deformity in the lower end of the femur; deformity in the upper end of the tibia. These three factors are usually all present, but in some cases the deformity is the expression of only one of them; for instance, in a certain number of fairly-pronounced cases it was found that by supporting the internal condyle of the femur with one hand while the other pressed the

foot inwards toward the middle line of the body, the deformity could be made to disappear completely. In such cases the change of form is due to stretching of ligaments on the inner aspect of the joints, and to rachitic changes in the softened and thickened epiphyseal cartilages. Such cases never demand operative measures. The constant mention of operation in connection with *geno valgum* has a bad educational effect. Students come to regard operative treatment as a routine measure instead of one that is only exceptionally called for as a result of the neglect of sufficiently-early instrumental treatment. Clarke (*Brit. Med. Jour.*, Apr. 30, '98).

GERMAN MEASLES.

Diagnosis.—The characteristic enanthem observed in German measles is a macular, distinctly rose-red eruption upon the velum of the palate, the uvula, extending to, but not on to, the hard palate. The spots are arranged irregularly, not crescentically; are the size of large pin-heads; and are very little elevated above the level of the mucous membrane. The enanthem is very short lived, fading away within the first twenty-four hours. The claim that this enanthem is distinctive can be defended by comparison with the enanthem of those two diseases with which rubella is confounded. In scarlatina the enanthem appears from twelve to twenty-four hours before the eruption, on the pillars of the fauces in the form of the characteristic puncta, then rapidly spreads over the mouth in the form of a scarlet-red coalescing eruption, finally ending in desquamation, producing the strawberry-tongue, and lasting well into the second week of the disease. In measles the enanthem begins upon the soft palate from thirty-six to forty-eight

hours before the exanthem in the form of purplish or bluish papules, arranged crescentically, and extends over the cheeks, accompanied by the blue tongue. It is at its maximum with the beginning of the eruption, and may take as long as three or four days to disappear. Forchheimer (*Pediatrics*, July 1, '98).

GONORRHOEA.

Etiology.—Gonorrhoea may be innocently acquired. Experiments with pure culture of the gonococcus obtained from a gleet discharge of two years' standing gave the following results:—

1. Attempted reinfection of the original urethra with this culture was always a failure.

2. The culture, when transplanted to a coccus-free urethra, produced typical acute gonorrhoea.

3. Infection from this back again to the original urethra gave a fresh gonorrhoea, which, after a typical acute course of five or six weeks, again subsided to a chronic gleet. This most interesting experiment demonstrates that by passing an attenuated gonococcus through another subject—that is, through a fresh culture-ground—it becomes again virulent to a urethra which was immune to it before. This explains how an apparently-healthy man, if he have the gonococcus lurking anywhere in his urethral tract, may infect his hitherto-uninfected wife, and how he may be again infected from her. H. Brooks Wells (*New York Polyclinic*, May 15, '98).

Treatment.—In performing irrigation, it is well to get the patient used to having his anterior urethra thoroughly irrigated. When he finds he is not hurt, he will instinctively relax, and often without his knowledge some of the fluid finds its way into the bladder; then he

himself soon learns to relax the compressor muscle by trying to perform the act of urination. In this way the fluid flows into the bladder without any violence. The patient should sit on the edge of a chair, obtaining a comfortable position, sometimes by leaning back and relaxing himself completely. Then he holds a pus-basin in position with the left hand, while the physician sits on his right. In this way the bladder can often be filled rapidly, even when the height of the reservoir is but $2\frac{1}{2}$ feet. And it is important to avoid using any force whatever.

In some very few cases, after thoroughly cleansing the anterior urethra, the patient is placed on his back, and with a large hand-syringe, holding about 3 ounces, the bladder is filled from the meatus without the use of a catheter, after the method suggested by Guiard, of Paris. The strength of the solution used seldom exceeds 1 to 2000 for the anterior, and 1 to 4000 for the posterior, urethra; this is the best method to pursue in the majority of cases.

In addition to this treatment, argonin in 10-per-cent. solution may be used in the anterior urethra alone, injecting it by an ordinary urethral syringe and holding it in the urethra for a space of five to ten minutes.

In private work this should be done twice a day for three or four days according to the case, after that once a day; and in numerous cases the case comes to a complete close within a week, and incapable of returning except by a reinfection. The most brilliant cases are those seen early; but it may be applied at any stage. If it fails, it is because of infection of some para-urethral follicle which has been overlooked or some diverticulum within the urethra. In these early cases the disease seldom

reaches the posterior urethra, and often it is never necessary to irrigate the posterior urethra in a given case at all.

The course of the disease should be followed by microscopical examinations, the treatment carried on several days after the gonococci have disappeared, and the patient kept under observation for awhile. The only drugs given by the mouth are for the general condition or to keep the bowels open. Exercise, so far as possible, is interdicted. Alcoholics are absolutely forbidden during treatment, but attention is seldom paid to diet. The success of the treatment depends upon careful attention to details; so that it is never advocated giving the solutions to the patient to use himself. G. K. Swinburne (*Jour. Cutaneous and Genito-Urin. Dis.*, July, '98).

HYDROCEPHALUS, ACQUIRED.

Etiology.—It is probable that the most frequent causes of obstruction in cases of chronic hydrocephalus are simple fibrous closure of the foramen of Magendie, adhesion of the surfaces of the tonsils of the cerebellum to each other and to the margin of the fourth ventricle, and the presence of cysts between the arachnoid and pia at the postero-inferior aspect of the cerebellum.

Treatment.—A case of acquired hydrocephalus was operated on and drainage established through the fourth ventricle. The trephine was applied to the occipital bone in the mesial line a little above the foramen magnum; although the skull is particularly thick at this point, and the sinus in the falx cerebelli requires to be ligated, this is the easiest and most satisfactory approach to the fourth ventricle. The accumulation of cerebrospinal fluid in this case was due to adhesions between the two tonsils of

the cerebellum and the sides of the medulla, the separation of which was followed by the escape of the imprisoned fluid. In the subsequent course of the case a large quantity of cerebrospinal fluid escaped daily from the wound. The operation is one that should be given trial in cases of chronic basic meningitis of both the tuberculous and non-tuberculous varieties. Bruce and Stiles (*Scottish Med. and Surg. Jour.*, March, 98).

HYSTERIA AND PELVIC DISEASE.

The psychical symptoms of hysteria are important to the gynæcologist. The patient is, as a rule, exceedingly impressionable. She is open to suggestion, especially as regards her pelvic condition. Hysteria is a psychoneurosis because of the prominence of these psychical manifestations. Neurasthenia may exist without pelvic disease. If both co-exist they have no relation with each other. If pelvic disease exists with neurasthenia the pelvic symptoms become more marked because of increased irritability. Hysteria may exist without pelvic disease. The possibility is denied of nervous and mental disease arising from pelvic operations. The pelvic condition should be operated on for the local condition only, and not to relieve the nervous condition. In cases of profound hysteria an operation should never be undertaken unless the surgical condition is very urgent. The hysteria should first be cured in order to prevent the disastrous effects of the operation upon the nervous condition. The insanities are not due to local organic disease, but to disease of the neurons as a result of various derangements of tissue-metabolism. Pelvic operations will not cure insanity. F. X. Dercum (*Med. News*, June 25, '98).

INTESTINAL PERFORATION.

Diagnosis.—Ether as a means of diagnosis of intestinal perforations is more practical and better than hydrogen-gas, since it is always at hand, and necessitates no special apparatus, aside from what is already found in the surgeon's possession, and further, no objections can be given to its use on account of noxious properties, unfounded as these objections may be as to the hydrogen-gas. The quantity of ether being infinitesimal (1 drachm or less being sufficient to give up the necessary vapor, which is diluted many, many times by the air that carries it) absolute freedom from anæsthesia is assured. The method is simple: A small quantity of ether is poured into the bottle accompanying the aspirator of so-called French pattern. A soft-rubber catheter or rectal tube (preferably a long, glass douche-tube connected by rubber tubing) is jointed to one of the pipes of the aspirator-bottle. The air-pump is joined to the other pipe, and air forced into the bottle becomes mixed with ether-vapor and passes on through the alimentary canal, the rectal tube being inserted as far as necessary. This mixture, which may be called ether-air, rapidly finds its way through the coils of intestines, giving forth strong rumblings as it progresses onward, causing distension on entering the stomach, from whence it is belched, provided no perforation exists along its pathway. Upon reaching a perforation, however, the ether-air escapes into the peritoneal cavity, tympanites more rapidly develops, and upon dilating the wound-entrance down to the peritoneum, quickly comes out into the world, being at once recognized by its odor and the hissing sound of escaping gas. Upon opening the abdomen the distension of the intestine from the rectum up can

be followed to the point of injury where the same odor and hissing are noted and the wound repaired. Continuing the search till no more ether-air is found escaping from the intestines one may rely upon its efficacy. E. M. Sutton (Jour. Amer. Med. Assoc., July 23, '98).

KRYOPHINE.

Kryophine is produced by heating phenetidin with methoxyacetic acid to 248°-266° F.; it is tasteless and odorless; soluble in 600 parts of cold, 52 parts of boiling water; also in alcohol, ether, chloroform, glycerin, and fixed oils. Under its influence the pulse becomes fuller and stronger, with a disappearance of diastole. Abnormal temperature is reduced surely and promptly, in a marked degree, and extending over several hours of time, without rigor or depression, and rarely attended by diaphoresis. Blood-pressure is increased. Respiration is not affected. It is eliminated in about six hours, by the kidneys principally, although it does not affect diuresis, and may be found in the urine fifteen minutes after its ingestion. The rapid and more or less complete saponification by the stomach and intestinal juices is probably the secret of its power and the reason for its prompt action. It controls neuralgic pain in a marked and sometimes almost magical manner, and in some persons produces a tendency to sleep. For the average adult 8 grains seems to be the dose giving best results, and is best given in powdered form, dry, upon the tongue. The tablets are not advisable until first pulverized. John H. Curtis (Therapeutic Gazette, May, '98).

MEASLES.

Diagnosis.—The Koplik spots are round, slightly raised, bluish-white efflorescences, having minute red centres.

They measure from 0.01 to 0.03 inch in diameter and are situated upon the inner surfaces of the cheeks, less often upon the mucous membrane of the lips, and rarely (in one instance) upon the tongue. They may occur on one or both sides, most often in the vicinity of the back teeth, and the usual number is from six to twenty, though hundreds may be present. They may be seen in daylight, or by a strong incandescent light, but not by lamplight. These spots seldom run together and cannot be rubbed off. They usually make their appearance on the first or second day of the prodromal stage and increase in number until the skin eruption appears, when they remain without change for three or four days and then disappear. Slawyk (Deut. med. Woch., Apr. 28, '98).

MILK AS A CULTURE-MEDIUM.

The composition of milk makes it a nutritive medium for every germ whose biology is at present understood. An investigation carried on in Boston showed that when healthy cows, in a clean place, were carefully milked into a sterilized flask, the milk contained only 530 bacteria per cubic centimetre, but when the ordinary milk-pail is used and the milk is conducted in the common way, there were, on an average, 30,500 bacteria per cubic centimetre immediately after milking. It should be remembered that the germs of diphtheria, cholera, typhoid fever, and scarlet fever develop at ordinary room-temperature, and that such growth does not affect the gross appearance of the milk. J. W. Strickler (Phila. Med. Jour., July 9, '98).

MILK: ITS ABSORPTION vs. ITS DIGESTION.

Milk alone is sufficient to meet the needs of the body. Intravenous injection

tion of fresh milk has been safely practiced, showing that the economy can assimilate it without previous digestion and absorption. Working on this theory, the author has adopted the following plan for the rapid absorption of milk without previous curdling and digestion. A number of hours after a meal (usually three or four) the food disappears from the stomach, with all gastric juice, and the mucous surface becomes alkaline. This is the "alkaline tide" of the stomach. If at this time milk, free from fat, fresh and alkaline, and at the temperature of the body, be taken, it will excite no secretion of gastric or pancreatic juice on account of its freedom from all irritant qualities, and it will, therefore, pass at once in an unaltered state into the absorbents and system. This saves nature much work and avoids the disturbances of coagulation. It enters the blood-current more quickly, and in no way disturbs the appetite for regular meals, even increasing the latter. Milk can thus be taken by patients who cannot take it with their meals. Bulkley (Phila. Med. Jour., July 2, '98).

MYXEDEMA IN THE NEGRO.

Symptoms.—The existence of myxedema among the black races has been universally denied, but there are myxedemic conditions sometimes seen that exhibit a peculiar thickening of the skin, local in distribution, identical in all respects with that present in cases of sporadic cretinism in the Caucasian race, but less diffuse in character. In 7 cases the thyroid gland was either not palpable, or below normal in size; in one case it was enlarged. The hair showed alteration in two cases, being coarse, thin and rough. The bones were abnormally broad in one case; the secretions of the skin were normal; even over the myxœ-

dematous areas there was little of the dryness and roughness usually characteristic of the disease. The features were broadened and rendered coarse in two cases, the abdomen pendulous in one. The blood was carefully examined, but no abnormalities were found in the shape or diameter of the red corpuscles in any case.

Treatment.—The excretion of urea rose to about the normal in nearly all under thyroid administration, while previously it had been below the normal. In four cases the administration of dry thyroid gland removed the jelly-like thickenings of the skin, proving fairly conclusive that the swellings were of the same general nature as myxedema; and all the cases improved mentally during the period of administration. Berkley (Amer. Jour. Insan., April, '98).

NEURASTHENIA.

Etiology.—The disorders of woman's pelvic organs have no more to do with her nervous and mental diseases than lesions elsewhere in her body; indeed, they have less to do with her psychoses and neuroses than most of her other organs, for, as in the male sex, the chief causes of their neuropsychoses are to be sought in intrinsic disorders of the nervous system itself, or in perverted nutrition of the nervous system dependent upon affections of the gastro-intestinal tract, kidneys, liver, lungs, heart, etc., and upon pathological blood states. It is true that puberty, adolescence, the puerperium, menstruation, and the menopause are often closely related to the outbreak or to the exacerbation of many nervous and mental disorders, but the pelvic organs themselves play but a small rôle in these physiological commotions. They have to do with the whole organism of woman. It is not denied

that pelvic diseases in women attended by exhausting pain may give rise to neurasthenic and hysterical states, but the influence of exhausting pain in these organs is no greater than similar exhausting pain elsewhere in the body. Nor is it denied that disorders of the female organs which affect the nutrition of the nervous system, such as excessive hæmorrhage, or suppurative processes, may be important factors in inducing functional neurosis and even insanity, though disordered blood states brought about by pelvic disease are very infrequent as compared with disordered blood states dependent upon disease elsewhere. There is no evidence whatever to support the opinion that insanity was ever due to a mere reflex influence from pelvic disease. In insanity the two great etiological factors are hereditary instability and some physical or moral stress directly affecting the nervous system. There has never been brought forward any evidence whatever to show that either epilepsy or chorea can be induced by disease of the female organs. Frederick Peterson (*Annals of Gynecology and Pediatrics*, Aug., '98).

OPHTHALMIA NEONATORUM.

In the twenty-five largest cities of the United States the proportion of the blind is, with two exceptions, smaller than in the States in which these cities are situated, or, taking all the cities of more than 50,000 inhabitants together, about 33 per cent. less blind are found in them than the average for the entire country. When the different factors in the production of blindness are examined, whether congenital or acquired, or, under the latter class, whether due to traumatism, general disease, or to local disease, these factors are all practically the same, or are made equal in

city and country, with one exception, namely, ophthalmia of infancy. A rather extended inquiry concerning the habitual practice of physicians in country almshouses, in hospitals and elsewhere in the State of New York indicates that more attention is given to guarding against ophthalmia of infancy in the cities than in the country. The tendency to the habitual neglect of prophylaxis tends to make a rapid difference in the distribution of the blind, estimated at possibly 14 to 1. It is at least the most apparent cause of this difference and probably accounts for the greater part of it. It follows from this apparently warrantable conclusion that if as great care were taken in general throughout the country as is given on the average in the cities to prophylaxis the number of blind in the United States would be decreased in a single generation by several thousands. Lucien Howe (*Med. News*, Aug. 6, '98).

PEMPHIGUS.

Treatment.—In the treatment of pemphigus vulgaris no reliance can be placed on the specifics; arsenic and quinine with tonics can be used with some hope of doing good. The arsenic should be used in the form of Fowler's solution, commencing with small doses and gradually increasing to tolerance. Quinine should be given in large doses, 20 to 30 grains every second or third day. Tonics in general should be given, such as cod-liver-oil, malt, iron, strychnine, etc., to improve the lowered vitality of the patient. Local treatment is of great importance; constant baths with the use of mild ointment, with vaselin as a base, and bismuth subnitrate, aristol, and oxide of zinc as constituents. In a disease like pemphigus, where the patient is more or less flayed, the hot bath

offers a medium in which the patient can live without such anguish as constantly tortures him, and with a greater chance of recovery. Very little true absorption of the water or the substance contained in it takes place in the bath, but a certain amount of the imbibition of the water and substances contained therein may occur. The baths should be given every day, or two or three times daily, if necessary to give the patient comfort; after the bath he should be anointed with a mild paste, of the formula before mentioned, enveloped in absorbent cotton, same being held in place by roller bandages. The temperature of the bath should be about 90° F., the patient should be immersed from one-half to two hours, and plenty of Castile soap used, so that the superficial layers of the epidermis should be cleansed, thereby favoring imbibition. The temperature of the bath should be kept up by the addition of hot water, and the room in which the patient takes his bath kept at an even warmth. A patient should not be put into a bath

after a hearty meal; the best time to give the bath is in the afternoon between 3 and 6 o'clock. Secretion from the bullæ should be tested, and if it is found to be neutral, simple hot bath to be given; if acid, an alkaline bath, made so by the addition of 4 ounces of bicarbonate of soda to 30 gallons of water. If alkaline, an acid bath is given, made so by the addition of 1½ ounces of nitric acid and 1 ounce of hydrochloric acid to 30 gallons of water. The daily diet should be highly nourishing; general hygienic measures and good ventilation should be observed. Formaldehyde fumigation is followed by success; two burners generally used twice a day; this is as long as can be comfortably borne by the patient. They soon become accustomed to its use; the first day they will allow the lamp to burn about ten minutes; by the end of the first week one to two hours. The large-size bullæ had best be opened at the most dependent portion and the fluid allowed to escape. R. P. Izlar (Georgia Jour. of Med. and Surg., Aug., '98).

New Books and Monographs Received.

The editor begs to acknowledge with thanks the receipt of the following books and monographs :—

Does the Theory that Typhoid Fever can be Aborted Conflict with Any Established Law of Pathology or with Any Known Scientific Fact? By John Eliot Woodbridge, M.D., Cleveland, Ohio, 1898.—Renal Suppuration, Catarrhal, Specific, and Traumatic, and the value of Micro-urinalysis of the Urinary Sediment as an Aid to Definite Diagnosis of It. By Thomas H. Manley, M.D., New York City, 1897.—A Clinical Study of Kryofine. By Sidney V. Haas, M.D., and J. Bennett Morrison, M.D., New York City, 1898. The Production and Sale of Antitoxin by the New York Board of Health. By A. M. Phelps, M.D., New York, 1898.—An Exhibition of Radiographs, with Remarks. By A. V. L. Brokaw, M.D., St. Louis, Mo., 1897.—Some Conclusions Drawn from Experiences in Pelvic Surgery. By A. V. L. Brokaw, M.D., St. Louis, Mo.—Transactions of the Section on Ophthalmology: College of Physicians of Philadelphia. March 15 and April 19, 1898.—Forest-growth and Sheep-grazing in the Cascade Mountains of Oregon. By Frederick V. Colville. U. S. Department of Agriculture, 1898.—

Our Trade with Spain, 1888-1897. Prepared by Frank H. Hitchcock. U. S. Department of Agriculture, 1898.—The San Jose Scale in 1896-1897. By L. O. Howard. U. S. Department of Agriculture, 1898.—Spain's Foreign Trade. Prepared by Frank H. Hitchcock. U. S. Department of Agriculture, 1898.—The Inspection of Meats for Animal Parasites. Prepared under the direction of Dr. D. E. Salmon. U. S. Department of Agriculture, 1898.—Final Report of the Crops of 1897. U. S. Department of Agriculture, 1898.—Report of the Public Education Association of Philadelphia Made at the Seventeenth Annual Meeting, 1898.—The Grain-smuts: How They are Caused and How to Prevent Them. By Walter T. Swingle. U. S. Department of Agriculture, 1898.—Cattle-ranges of the Southwest. By H. L. Bentley. U. S. Department of Agriculture, 1898.—Epidemic Cerebro-spinal Meningitis and its Relation to the Other Forms of Meningitis. A Report of the State Board of Health of Massachusetts, 1898.—Report of the Health Department of the City and County of San Francisco for the Fiscal Year Ending June 30, 1897.—Farmakodynamiska Studier A Det Isolerade Och Ofverlevande Daggdjurshjartat af Karl Hedbom. Upsala, 1896.—Ueber Giftige Eiweisse Welche Blutkorperchen Verkleben. Von M. Elfstrand, Upsala, 1897.—Arsberättelse Fran Sabbatsbergs Sjukhus. 1 Stockholm för 1895-96. By Dr. F. W. Warfvinge, Stockholm, 1898.—A proposito della cura dell'ozena col siero antidifterico, 1898.—Discorso del Prof. Vittorio Grazzi all a inaugurazione del Terzo Congresso della Societa Italiana do Laringologia, Otologia, e Rinologia, avvenuta nell a R. Università di Roma la mattina del 28 Ottobre, 1897.—Di Una Grave Complicazione Avvenuta Dopo l'Asportazione di un Papilloma della Laringe per il Prof. Vittorio Grazzi, Florence, 1897.—Note Oto-rino-laringologiche. By Prof. Vittorio Grazzi, Florence, 1898.—Sur le Traitement des Sinusites. By E. J. Moure, Bordeaux, 1897.—Sur un Cas de Surdite Complete a la Suite d'une Meningite Aigue par Diplococcus de Fraenkel et presentation de la Malade. By Prof. Vittorio Grazzi, Florence, 1897.—Post-febrile Insanity. By Alexander L. Hodgdon, M.D., Baltimore, 1897.—Notes on the Pathology and Bacteriology of Appendicitis. By Chas. F. Craig, M.D., Danbury, Conn., 1897.—The Bacteriology of Epidemic Carotitis, with Description of a Diplo-Bacillus Found in the Blood and Urine. By Chas. F. Craig, M.D., Danbury, Conn., 1898.—The Branched Form of the Bacillus Tuberculosis in Sputum. By Chas. F. Craig, M.D., Danbury, Conn., 1898.—The Centrifuge as an Aid in Diagnosis. By Chas. F. Craig, M.D., Danbury, Conn., 1898.—Sanitarium Treatment of Pulmonary Tuberculosis. By J. Edward Stubbett, M.D., Liberty, N. Y., 1898.—The First Recognized Case of Yellow Fever in Mobile in 1897, with Comments and Deductions. By Edwin L. Maréchal, M.D., Mobile, Ala., 1898.—The Treatment of Diphtheria with Diphtheria Antitoxin. By Edwin Rosenthal, M.D., Philadelphia, Pa., 1895.—The Influence of Antitoxine in the Treatment of Laryngeal Diphtheria With and Without Intubation. By Edwin Rosenthal, Philadelphia, Pa., 1898.—Injuries to the New Born in Cross, Complex and Breech Presentation. By Edwin Rosenthal, M.D., Philadelphia, Pa., 1898.—Uterine Moles. By Edwin Rosenthal, M.D., Philadelphia, Pa., 1898.—Serum Therapy in Diphtheria. By Edwin Rosenthal, M.D., Philadelphia, Pa., 1896.—Etiology, Prevalence and Treatment of Hysteria. By U. O. B. Wingate, M.D., M.M.S.S., Milwaukee, 1898.—Physical Characteristics of Ten Thousand Men. By Lt.-Col. Charles Adams, Chicago, Ill., 1898.—The Essential of the Art of Medicine. By J. H. Musser, M.D., Philadelphia, Pa., 1898.—The Diagnostic Importance of Fever in Late Syphilis. By J. H. Musser, M.D., Philadelphia, Pa., 1892.—Renal Calculus. By J. H. Musser, M.D., Philadelphia, Pa., 1898.—Symposium on the Pathology of the Diseases of the Cardio-Vascular System. By J. H. Musser, M.D., and J. D. Steele, M.D., Philadelphia, Pa., 1898.—The Prevention of Diseases now Preying upon the Medical Profession. By Leartus Connor, A.M., M.D., Detroit, Mich., 1898.—Address of the President. By W. Murray Weidman, M.D., Reading, Pa., 1898.—A

Dell' emicorea Post-emiplegica E dei Rammollimenti del Ponte di Varolio. By Dott. Alfredo Rubino, Naples.—Sull' Epilessia Sifilitica Secondaria. By Dott. Alfredo Rubino, Naples, 1898.—Neurotic Eczema. By L. Duncan Bulkley, A.M., M.D., New York, 1898.—Errors in Death-returns from Malarial and Typho-malarial Fevers; Typhoid Fever the Prevailing Fever of Washington. By William W. Johnston, M.D., Washington, D. C., 1898.—The Influence of School-life upon the Health of Children. By William W. Johnston, M.D., Washington, D. C., 1897.

EDITORIAL STAFF

OF

Sajous's Annual and Analytical Cyclopædia of Practical Medicine.

ASSOCIATE EDITORS.

(List Revised August 1, 1898.)

- | | | |
|---|--|--|
| J. GEORGE ADAMI, M.D.,
MONTREAL, P. Q. | S. G. GANT, M.D.,
KANSAS CITY, MO. | WILLIAM OSLER, M.D.,
BALTIMORE, MD. |
| LEWIS H. ADLER, M.D.,
PHILADELPHIA. | J. McFADDEN GASTON, M.D.,
ATLANTA, GA. | F. A. PACKARD, M.D.,
PHILADELPHIA. |
| JAMES M. ANDERS, M.D., LL.D.,
PHILADELPHIA. | J. E. GRAHAM, M.D.,
TORONTO, ONT. | LEWIS S. PILCHER, M.D.,
BROOKLYN, N. Y. |
| G. APOSTOLI, M.D.,
PARIS, FRANCE. | JULES GRAND, M.D.,
PARIS, FRANCE. | WILLIAM CAMPBELL POSEY, M.D.,
PHILADELPHIA. |
| A. D. BLACKADER, M.D.,
MONTREAL, P. Q. | EGBERT H. GRANDIN, M.D.,
NEW YORK CITY. | W. B. FRITCHARD, M.D.,
NEW YORK CITY. |
| E. D. BONDURANT, M.D.,
MOBILE, ALA. | LANDON CARTER GRAY, M.D.,
NEW YORK CITY. | JAMES J. PUTNAM, M.D.,
BOSTON. |
| DAVID BOVAIRD, M.D.,
NEW YORK CITY. | J. F. CROZER GRIFFITH, M.D.,
PHILADELPHIA. | GEORGE H. ROHÉ, M.D.,
STEVESVILLE, MD. |
| L. BROCCQ, M.D.,
PARIS, FRANCE. | A. GOUQUENHEIM, M.D.,
PARIS, FRANCE. | ALFRED RUBINO, M.D.,
NAPLES, ITALY. |
| WILLIAM BROWNING, M.D.,
BROOKLYN, N. Y. | C. M. HAY, M.D.,
PHILADELPHIA. | LEWIS A. SAYRE, M.D.,
NEW YORK CITY. |
| WILLIAM T. BULL, M.D.,
NEW YORK CITY. | FREDERICK P. HENRY, M.D.,
PHILADELPHIA. | REGINALD H. SAYRE, M.D.,
NEW YORK CITY. |
| CHARLES W. BURR, M.D.,
PHILADELPHIA. | EDWARD JACKSON, M.D.,
DENVER, COLO. | SOLOMON SOLIS-COHEN, M.D.,
PHILADELPHIA. |
| DUDLEY W. BUXTON, M.D., M.R.C.P.,
LONDON, ENGLAND. | NORMAN KERR, M.D., F.L.S.,
LONDON, ENGLAND. | H. W. STELWAGON, M.D.,
PHILADELPHIA. |
| HENRY T. BYFORD, M.D.,
CHICAGO, ILL. | EDWARD L. KEYES, JR., M.D.,
NEW YORK CITY. | D. D. STEWART, M.D.,
PHILADELPHIA. |
| J. ABBOTT CANTRELL, M.D.,
PHILADELPHIA. | H. KRAUSE, M.D.,
BERLIN, GERMANY. | LEWIS A. STIMSON, M.D.,
NEW YORK CITY. |
| WILLIAM B. COLEY, M.D.,
NEW YORK CITY. | E. LANDOLT, M.D.,
PARIS, FRANCE. | G. ARCHIE STOCKWELL, M.D.,
NEW YORK CITY. |
| P. S. CONNER, M.D., LL.D.,
CINCINNATI, OHIO. | ERNEST LAPLACE, M.D., LL.D.,
PHILADELPHIA. | B. J. STOKVIS, M.D.,
AMSTERDAM, HOLLAND. |
| FLOYD M. CRANDALL, M.D.,
NEW YORK CITY. | R. LÉPINE, M.D.,
LYONS, FRANCE. | LOUIS McLANE TIFFANY, M.D.,
BALTIMORE, MD. |
| ANDREW F. CURRIER, M.D.,
NEW YORK CITY. | F. LEVISON, M.D.,
COPENHAGEN, DENMARK. | CHARLES S. TURNBULL, M.D.,
PHILADELPHIA. |
| JUDSON DALAND, M.D.,
PHILADELPHIA. | A. LUTAUD, M.D.,
PARIS, FRANCE. | HERMAN F. VICKERY, M.D.,
BOSTON, MASS. |
| N. S. DAVIS, M.D.,
CHICAGO, ILL. | F. MASSEI, M.D.,
NAPLES, ITALY. | RIDGELY B. WARFIELD, M.D.,
BALTIMORE, MD. |
| F. EKLUND, M.D.,
STOCKHOLM, SWEDEN. | E. E. MONTGOMERY, M.D.,
PHILADELPHIA. | F. E. WAXHAM, M.D.,
DENVER, COLO. |
| AUGUSTUS A. ESHNER, M.D.,
PHILADELPHIA. | JULES MOREL, M.D.,
GHENT, BELGIUM. | J. WILLIAM WHITE, M.D.,
PHILADELPHIA. |
| J. T. ESKRIDGE, M.D.,
DENVER, COLO. | HOLGER MYGIND, M.D.,
COPENHAGEN, DENMARK. | W. NORTON WHITNEY, M.D.,
TOKIO, JAPAN. |
| CHRISTIAN FENGER, M.D.,
CHICAGO, ILL. | W. P. NORTHRUP, M.D.,
NEW YORK CITY. | JAMES C. WILSON, M.D.,
PHILADELPHIA. |
| SIMON FLEXNER, M.D.,
BALTIMORE, MD. | H. OBERSTEINER, M.D.,
VIENNA, AUSTRIA. | C. SUMNER WITHERSTINE, M.D.,
PHILADELPHIA. |
| LEONARD FREEMAN, M.D.,
DENVER, COLO. | CHARLES A. OLIVER, M.D.,
PHILADELPHIA. | WALTER WYMAN, M.D.,
WASHINGTON, D. C. |

THE MONTHLY CYCLOPÆDIA OF PRACTICAL MEDICINE.

Vol. XII.
Old Series.

PHILADELPHIA, NOVEMBER, 1898.

Vol. I. No. 11.
New Series.

TABLE OF CONTENTS.

	PAGE		PAGE		PAGE
A MODEL HOSPITAL FOR THE INSANE. Albert L. Gibson.....	425	GASTRIC ULCER	411	Treatment. Einhorn, Knapp, Keller, Cordier, Cramer, R. Harvey Reed, Lewis.....	419
ABORTION, ACQUAINTED AS PREVENTIVE OF. Stephen Harnsberger.....	426	Diagnosis. W. Essex Wynter, A. Robin, Vogel, Billard, Kuttner, Dieulafoy.....	411	NASO-PHARYNGEAL ADENOIDS, DANGER OF OPERATION FROM, UNDER CHLOROFORM. Frank Whitehill Kinkel.....	433
ASTHMA AND ITS TREATMENT. Beverly Robinson.....	427	Etiology. Lyman, Widal and Moslay.....	414	PROGRESSIVE CIRRHOSIS OF THE LIVER, BACTERIOLOGY OF. J. G. Adams.....	434
CARDIAC SYPHILIS. I. Adler.....	428	Prognosis. Editorial, Lancet; Ludwig Pock, Morse.....	414	PRURITUS. Sarbo, Herman.....	421
CHILBLAINS	401	Treatment. Fourrier, Olivetti, Fremont, Winternitz, Leube, J. Mikulicz.....	414	Etiology. Sarbo, Herman.....	421
Symptoms. M. George Thibierge.....	401	HEADACHE, CHRONIC	429	Prognosis. Dirner.....	421
Etiology. Thibierge, A. E. Wright.....	402	Treatment. Editorial, Cleveland Journal of Medicine.....	429	Treatment. St. Luke's Hospital Reports, Ruge, Fleux, Herman, Van Mars, H. Robb, Labusquière, D. W. S. Samways, José Codina Castelví, Shoemaker, Brocq.....	421
Treatment. Thibierge, Brocq, M. Besnier, A. E. Wright, Chéron, C. Bins, F. W. Forbes Ross.....	403	HYPERTROPHIED PROSTATE IN THE AGED	430	RINGWORM OF THE SCALP. Lyle.....	435
CURETTE, USE OF. Mordecai Price.....	423	Treatment. George W. Johnson.....	430	STERILIZATION OF CATGUT BY DRY HEAT. J. H. Dauber.....	435
ECZEMA, PREVENTION OF. Drejer.....	429	INTRODUCTION OF THE STOMACH-TUBE WITH THE LEAST POSSIBLE EMBARRASSMENT TO THE PATIENT. Boardman Reed.....	430	STRYCHNINE: IS ITS CONTINUAL USE UNWISE? Thomas J. Mays.....	435
EXOPHTHALMIC GOITER IN CHILDREN	429	LUPUS ERYTHEMATOSUS	431	TUBERCULOSIS, EXANTHEMATA OF. Boeck.....	436
Treatment. Gillespie.....	429	Treatment. Unna.....	431	WHOOPING-COUGH, EARLY DIAGNOSIS IN. Henry Lewis Wagner.....	437
GALL-STONES	406	MEAT POISONING. G. Wessenberg.....	432	NEW BOOKS RECEIVED	438
Symptoms. F. Lange, Osler, Wilkinson, John Thomson.....	406	MOVABLE KIDNEY	416	MONOGRAPHS RECEIVED	438
Diagnosis. A. H. Ferguson, Courvoisier, Osler, Steinthal.....	407	Symptoms. Lewis, Einhorn, Cordier, Leonard A. Bidwell.....	416	EDITORIAL STAFF	440
Etiology. William Hunter, Schroeder, Naunyn, R. H. Chittenden, Hartmann, M. Mignot, J. Cornillon.....	408	Diagnosis. Lewis.....	418		
Treatment. W. Gilman Thompson, Brockbank, Blum, Mayo Robson.....	410	Etiology. H. Edwin Lewis.....	418		

Cyclopædia of the Year's literature.

CHILBLAINS.

Symptoms.—M. George Thibierge¹ reviews in an interesting manner this disorder, which, in winter, is the cause of much suffering in our Northern climates.

Chilblains are always painful in a more or less marked degree; their development is preceded by pruritus and a sensation

¹ Jour. des Praticiens, Jan. 9, '97.

of heat and of pricking; after they have become established they are also accompanied by the same sensations, which are tolerable when the diseased parts are exposed to cold, and extremely painful when subjected to heat; changes from cold to heat, and frequently rest in bed, arouse, and increase their intensity; this symptom is of great diagnostic value. Even simple pressure is extremely painful, however slight the lesions. To this may be added tumefactions and ulcerations, thus rendering chilblains veritable infirmities.

Chilblains may be followed by a general tumefaction of the regions attacked, which is the result of local asphyxia even more than of the chilblains themselves. In the hands this tumefaction gives an entirely peculiar sausage-like aspect to the fingers, somewhat like that resulting from acromegaly.

Another consequence, still more rare, of chilblains is the production of localized and persistent vascular dilatations; true acquired capillary angiomas, on which there are small papillomata resembling warts.

Etiology.—According to Thibierge,² the erythematous congestion of the hands, or rather of the extremities, which in certain subjects appears when cold weather sets in, and is one of the forms of what is known as Raynaud's disease, is an important predisposing cause. In young people the insufficiency of peripheral circulation which it causes should be attributed especially to the slight paralysis of the vasomotor system; in older persons it arises principally from atheroma, which impedes the local circulation, the effects of which are further marked by weakness of the myocardium and by the blood-dyscrasia depending upon senile interstitial nephritis. It must be noted, moreover, that this as-

phyxia of the extremities is not necessarily followed by chilblains, and that they may develop in non-asphyxiated regions.

Defective or insufficient alimentation singularly facilitates the development of chilblains; inactivity also helps their development; cold, aided by defective conditions of circulation and of the functions of the economy, is the cause of chilblains, and it exerts still greater effects when the skin is wet or not properly dried, or when it is suddenly succeeded by heat. Chilblains may often be prevented if the parts which have been exposed to the cold are slowly and progressively warmed.

A. E. Wright³ shows that the very familiar form of serous hæmatoma known by the name of chilblain is dependent upon a condition of defective blood-coagulability, and that it can often be relieved by increasing the patient's blood-coagulability. He has investigated the conditions of blood-coagulability in ten cases of chilblains. Two of these were cases of aggravated chilblains occurring in adult men. The time required for blood-coagulation of these patients was, respectively, 9 minutes and 9 $\frac{1}{4}$ minutes. Four of these cases were cases of aggravated chilblains occurring in adult women. The duration of the blood-coagulation in these cases was, respectively, 13 minutes, 11 minutes, 8 $\frac{3}{4}$ minutes, and 7 $\frac{1}{2}$ minutes. Lastly, four of these ten cases were mild cases of chilblains in schoolboys. The duration of the coagulation in these cases was, respectively, 11 minutes, 9 $\frac{1}{4}$ minutes, 7 $\frac{3}{4}$ minutes, 4 $\frac{1}{2}$ minutes. It is obvious, therefore, when it is considered that the normal duration of blood-coagu-

² Jour. des Praticiens, Jan. 9, '97.

³ Lancet, Jan. 30, '97.

lation varies between 3 and 4 minutes, that all these cases of chilblains with the exception of the last case were associated with a very notable defect of blood-coagulability. This fact stands in relation with certain other facts which obtrude themselves more directly upon the clinician's attention. These facts are the greater liability of children to chilblains; the fact that chilblains are prone to occur in persons who give a history either of nose-bleeding or of urticaria; the occurrence of chilblains in persons who are characterized by a lymphatic habit of body; the not infrequent occurrence of chilblains in persons who are the subjects of malarial cachexia; and the not infrequent occurrence of chilblains in hæmophilic families.

The notorious liability of children to chilblains is, no doubt, in part referable to the fact that the influence of cold makes itself felt more upon the relatively small extremities of the child than upon the relatively large extremities of the adult. Another probable factor in the etiology is the fact that the lime-salts upon which the coagulability of the blood depends are, in the growing child, continually being removed from the blood in order that they may be deposited in the bones.

In the relation between the lymphatic constitution and a predisposition to chilblains will be understood, first, that the essence of the lymphatic constitution is to be found in a water-logging of the tissues, which is dependent upon an excessive transudation of lymph; secondly, that it will require only a very slight increase of transudation to convert such a water-logged condition of the tissues into perfectly-definite hæmatomata, such as are seen in chilblains; and, thirdly, that, in all probability both chilblains and the water-logged condition of the tissues

which are met with in the lymphatic patient are ultimately referable to a defect of blood-coagulability. The subjects of malarial cachexia are not infrequently also the subjects of chilblains.

Treatment. — Thibierge⁴ states that the conditions which predispose to the development of chilblains show what importance a general tonic medication should have in their treatment and their prophylaxis. Codliver-oil, preparations of iodine, iron iodide, and arsenic are indicated in all cases, and their regular and prolonged employment often leads to the attenuation, in a very great proportion, of the tendency in certain subjects to chilblains.

Quinine sulphate often renders great service in an affection in which the circulatory troubles of the extremities play an indisputable part. Brocq obtained good results from the association of quinine sulphate and of ergotine in doses of from $\frac{3}{4}$ grain to 3 grains with powdered digitalis (from $\frac{2}{10}$ to $\frac{3}{10}$ grain) and the extract of belladonna (from $\frac{2}{100}$ to $\frac{6}{100}$ grain) in the form of pills, the employment of which was prolonged during the entire winter.

Inhalations of oxygen, which accelerate nutritive changes and often give remarkable results in asphyxia of the extremities, are strongly indicated in those subjects in whom the sluggish condition of circulation predisposes them to chilblains.

Regular exercise, walking, gymnastics, cold effusions, and general stimulating lotions are also extremely useful prophylactic means in the majority of subjects in whom a former experience has demonstrated their tendency to the development of this infirmity.

The hands should be covered with

⁴ Jour. des Praticiens, Jan. 9, '97.

thick and sufficiently warm gloves, but rough woolen gloves should be avoided. They, like the feet, should be washed in warm water (not in cold) and carefully dried on a towel (never before a fire), and then powdered with starch or talc in order to remove every trace of dampness.

The hands should not be allowed to remain too long in cold or soapy water. Shoes and stockings should be comfortably large; they should be thick enough to protect the feet against the action of the cold, especially when there is snow on the ground. If sweating accompanies the chilblains, repeated foot-baths must be resorted to and the parts powdered with starch or talc, to which has been added from 1 to 2 per cent. of salicylic acid.

Foot-stoves should be absolutely proscribed; if the feet are cold the best way to make them warm is to rub them well, but gently, with a slightly-warmed piece of flannel.

Foot-baths containing small quantities of astringent decoctions of walnut-leaves, of ash-leaves, of eucalyptus-leaves, of oak-bark, etc., of from five to six minutes' duration, constitute a very useful means of preventing frost-bites by increasing the resistance of the skin.

If the lesions are not very intense, and characterized only by red patches not very extensive and scarcely prominent, the preceding modes of treatment are indicated, particularly the local astringent baths and the absorbent powders. But if the lesions are pronounced, the patches large and prominent, these modes of treatment must be associated with or replaced by other topical agents: ointments or collodion. The substances which are incorporated in them are intended to increase the consistence of the ointment, such as zinc oxide; or to allay the pruri-

tus, such as opiates, carbolic acid, and menthol; or they are endowed with solvent qualities, such as lead-salts, of which the most commonly used is lead subacetate, which is antieczematous.

When the lesions are constituted by red elements, with little or no infiltration of the skin, zinc-oxide ointment, such as the following, to which has been added a small quantity of carbolic acid or menthol, will suffice to allay the pruritus and cause the rapid disappearance of the lesion:—

℞ Zinc oxide, 150 grains.
Carbolic acid, 8 grains.
Vaselin,
Lanolin, of each, 225 grains.—M.

Another formula is this:—

℞ Zinc oxide, 150 grains.
Menthol, from 3.5 to 4.5 grains.
Vaselin,
Lanolin, of each, 225 grains.—M.

If the elements are more prominent, more inflamed, the preferable treatment is with an ointment containing lead-salts, such as the following:—

℞ Lead subacetate, 30 grains.
Carbolic acid, 8 grains.
Vaselin,
Lanolin, of each, 300 grains.—M.

Simple elastic collodion, or collodion combined with iodine or salol, or better still the collodion made with acetone, which makes a better covering and does not produce the fissures which occur so frequently after the use of ordinary collodion, is an excellent protector for the diseased surfaces, and allays the pruritus; but it should never be applied to ulcerating chilblains or to those on which blisters have formed.

The following formula is recommended:—

R Pyroxylin, 45 grains.
 Acetone, 300 grains.
 Ether,
 Alcohol, of each, 150 grains.
 Castor-oil, 60 grains.—M.

When the chilblains resist these topical applications, ointments containing silver nitrate, or painting with a 50-per-cent. solution of silver nitrate or with the tincture of iodine, often hastens their resolution.

If blisters form they should be opened aseptically and covered with a dressing of vaselin and boric acid, or with freshly-prepared carron-oil, to which has been added 2 per cent. of carbolic acid. If these blisters have been ruptured, or the chilblains are ulcerated, after bathing the parts with a weak solution of corrosive sublimate they should be covered with a dressing of vaselin and boric acid or with non-irritating plasters, such as zinc oxide, simple boric acid, and dermatol plasters, or Vidal's red plaster. If the ulcerations do not disappear they should be touched every two days with a silver-nitrate stick, or with tincture of iodine, and dressed with camphorated brandy, with Van Swieten's liquor, diluted one-half with water, or with aromatic wine. These dressings should be carefully applied, particularly on the toes and between the fingers, where, according to M. Besnier, it is well to place small tampons of absorbent cotton.

With regard to the treatment, A. E. Wright⁶ says: "The obvious indication in a case of chilblains is to increase the patient's blood-coagulability, and, in conformity with these indications, patients are to be placed upon a regimen of calcium chloride, after duly cautioning them against lowering their blood-coagulability by the ingestion of sour fruits, alcohol, or excessive quantities of fluid."

Chéron⁶ gives the following formula for rebellious chilblains:—

R Solution of lead subacetate,
 Tincture of iodine,
 Tincture of opium, of each, 5 parts.
 Starch, 10 parts.
 Glycerin, 140 parts.—M.

C. Binz⁷ thinks that only chemicals capable of penetrating the epidermis can be expected to have any effect upon chilblains. To these belongs chlorine in the form of chlorinated lime. One part of this, mixed with 9 parts of paraffin ointment, rubbed into the inflamed parts for five minutes every night, will cause the pain and swelling to disappear in the course of a week. After each inunction the foot is covered with a very thick bandage. It is important that the ointment should have a strong odor of chlorine, and he points out that the chlorinated lime of shops has generally parted with its free chlorine. Another point of importance is that the drug should be mixed only with paraffin ointment; for when mixed with lard, and especially with lanolin, it gives up its chlorine too quickly. The ointment is useful only so long as it gives out a decided smell of chlorine.

F. W. Forbes Ross⁸ applies the secondary current of the faradic battery from five to fifteen minutes, increasing the current gradually to high strength, the poles being in contact with the affected area, having previously dipped the electrodes in a saturated solution of sodium chloride. The tissues are gradually blanched, commencing after about five minutes. The itching is completely and promptly stopped by the first application,

⁶ *Lancet*, Jan. 30, '97.

⁶ *Jour. de Méd. de Paris*, March 28, '97.

⁷ *Fortschritte der Med.*, Dec. 15, '97.

⁸ *Lancet*, No. 3832, p. 425, '98.

and a second, one or two days afterward, usually suffices for a cure. Seldom, if ever, does a third or fourth application become necessary.

GALL-STONES.

Symptoms.—F. Lange⁹ remarks that, as long as gall-stones remain quiet in the gall-bladder, they will seldom give rise to any symptoms; but as soon as they become dislodged and commence to travel through the cystic or the common ducts the typical symptoms will begin. Acute impaction of gall-stones in the cystic duct happens not infrequently with solitary stones of larger size. Solitary stones are not always the cause of this affection; but, on the contrary, sometimes quite the opposite condition will be found. If the gall-stone passes beyond the cystic duct into the common duct and is arrested there, the symptoms of stagnation of the bile will make their appearance. Very frequently, however, inflammation of the gall-system, such as cholangioitis, pericholangioitis, or even liver-abscess, is associated with it. The principal point of resistance for gall-stones is the region of the papilla in the wall of the duodenum.

The ball-valve gall-stone in the common duct causes, according to Osler,¹⁰ the following symptoms: First, jaundice of varying intensity, deepening after each paroxysm, which may persist for months and even for years; second, ague-like paroxysms, characterized by chill, fever, and sweating, after which the jaundice usually becomes more intense; third, at the time of the paroxysms pains in the region of the liver and gastric disturbance. Recovery may follow even after jaundice, chills, and fever have lasted for years; the conditions can be differentiated from suppurative cholangitis;

the symptoms are probably caused by the ball-valve action of the stone.

The symptoms of gall-stone in the common duct are as follow: They are very variable. 1. The occasional or continuous presence of bile in the fæces. 2. Distinct variation in the intensity of the jaundice. 3. Normal size or only slight enlargement of the liver. 4. Absence or distension of the gall-bladder. 5. Enlargement of the spleen. 6. Absence of ascites. 7. Presence of febrile disturbance. 8. Duration of jaundice for more than a year.

Wilkinson¹¹ observed a case in which intestinal obstruction was produced by a gall-stone about the size of a pigeon's egg. The patient had all the usual symptoms of intestinal obstruction without, however, any localizing symptoms. Nothing was discoverable on palpation and rectal examination. The patient continued in this condition, with some slight amelioration alternating with exacerbations, for eleven weeks, existing, upon the average, on not over 3 ounces of milk a day. At the end of that time the author found the patient in a state of collapse, with great pain and straining. A hard mass was felt blocking the rectum; it was removed by pressure through the posterior vaginal wall, and proved to be a gall-stone the size of a pigeon's egg, faceted and weighing 5 drachms 41 1/2 grains. The patient recovered slowly, but completely.

John Thomson¹² records the case of a male child who became jaundiced two days after birth, got steadily weaker, and died on the twentieth day. The urine was brown; the motions yellow, the later

⁹ Johns Hopkins Hosp. Bull., Feb., '97.

¹⁰ Lancet, May 15, '97.

¹¹ Brit. Med. Jour., Feb. 13, '97.

¹² Edinburgh Hosp. Reports, vol. v.

green, but never clay-colored. There was no ordinary meconium, but yellow matter like ochre was passed. At the necropsy no abnormality of the bile-ducts was noticed; the liver was normal to the naked eye, but microscopically showed commencing cirrhosis and some fatty infiltration. The gall-bladder contained one calculus weighing 25 milligrammes, which was elongated and constricted in the middle, a smaller one, and several fragments. Their combined weight when dried was 30 milligrammes. Their composition showed biliverdin and traces of cholesterin. The author has collected six other cases with biliary calculi in which jaundice was present either at or immediately after birth. In all death occurred within one month.

Diagnosis.—A. H. Ferguson¹³ states that the diagnosis of occlusion to the ductus choledochus is not difficult, in the majority of cases, the chief clinical features being: 1. The history of cholelithiasis. 2. Pain (a) referred; (b) local, over the common duct. 3. Tenderness elicited by finger-tip pressure is not over the fundus of the gall-bladder, unless it, too, contains stones or is inflamed. 4. Jaundice is the sign of an obstructed common duct; chronic exacerbating jaundice is more characteristic of obstruction by a gall-stone loose in the duct than anything else. 5. Area of gall-bladder dullness lessened in chronic cases and increased in acute obstruction in a case that has had manifestations of cholelithiasis for a short time. The author believes that in every case of biliary colic the gall-bladder enlarges during the first attacks. 6. Several slight attacks within a day or week, coupled with icterus, is strong evidence of choledochus-stone. 7. Vomiting may or may not be present; nausea usually is. 8. Emaciation is a late sign of this trouble

9. Chills and fever in 25 per cent. of cases (Courvoisier).

Osler¹⁴ says that the condition of ball-valve stone in the common duct is recognized from malaria by absence of plasmodium in the blood. Abscess of liver is excluded by the absence of tenderness and enlargement, the variable character of the jaundice, the good condition of the patient in the intervals. If suppurative cholangitis is present it is recognized by (1) increased tenderness in the hepatic region, with possibly enlargement of the gall-bladder; (2) the more frequent return of the paroxysms, and often the irregularly remittent form of fever; (3) jaundice less intense in the suppuration, and an absence of the increase of jaundice after a paroxysm; (4) the condition of the patient between the paroxysms is much worse in the suppuration than in the ball-valve condition.

The presence of a solitary calculus in the gall-bladder is rather the exception than the rule; Steinthal¹⁵ encountered such a condition in three cases, the stones being about the size of a pigeon's egg. When attacks of colic referred to the region of the gall-bladder are unattended with jaundice, and there is no history of a stone's having been passed by the bowel, it is safe to assume that a solitary stone is lodged in a diverticulum of the bladder; if such attacks are followed by the passage of a large stone there must be a communication between the gall-bladder and the bowel. Attacks of colic, with or without jaundice, when no stone has been passed, indicate the presence either of a solitary stone or of one large stone causing obstruction, and a number of smaller ones; elevation of temperature,

¹³ Tri-State Med. Jour. and Pract., April, '97.

¹⁴ Lancet, May 15, '97.

¹⁵ Deutsche med. Woch., March 31, '98.

complicating colicky attacks, is an indication of suppuration.

Etiology.—William Hunter¹⁶ points out that the female sex is five times more liable to cholelithiasis than the male. Any cause of stagnation of bile in the gall-bladder favors the development of this condition. Schroeder found gall-stones in 50 per cent. of cases of women whose livers showed evidence of tight-lacing by the presence of transverse furrows. It is not unreasonable to remark that the presence of transverse hepatic furrows is by no means conclusive evidence of tight-lacing, and that after a large experience of post-mortem examinations the conclusion is forced on the observer that such furrows occur in cases in which tight-lacing has certainly not been customary. They occur also in the bodies of men. The chief seat of the formation of gall-stones is the gall-bladder, and their chief constituent in this situation is cholesterin, though they usually have a central dark nucleus of bilirubin-calcium. Gall-stones are also formed within the intrahepatic ducts, and here consist almost always of bilirubin-calcium. In the hepatic and the common bile ducts gall-stones are also formed; in these situations they consist of cholesterin and bilirubin-calcium, the latter being in excess of the former. The author regards the cholesterin as being formed locally through the disintegration of the epithelium lining the gall-bladder and larger bile-ducts. Naunyn has traced the origin of cholesterin from this degenerated epithelium. It is formed within the degenerated epithelial cell, and escapes in a viscous condition. Bilirubin-calcium is insoluble, and in normal bile the two constituents are uncombined. The presence of an excess of lime causes bilirubin-calcium to be deposited. It would seem that the normal

bile-salts prevent the precipitation of bilirubin-calcium, even in presence of an excess of lime. So that a certain reaction of normal bile must ensue in order that bilirubin-calcium may be precipitated. Naunyn has observed that egg-albumin favors the precipitation of bilirubin-calcium from bile-salts. The view of the author is that catarrh of the gall-bladder and of the bile-ducts is the chief cause of the precipitation of cholesterin and of bilirubin-calcium. In catarrh there is the presence of albumin in connection with increased epithelial degeneration, and these are just the conditions which have been shown to be most congenial to the formation of gall-stones.

One of the commonest causes of inflammation of the ducts and gall-bladder is infection by organisms. To this cause must be added stagnation of bile, these two conditions combined being the most efficient causes of gall-stones. The bacillus coli communis is the organism most frequently found in inflammation of the ducts and gall-bladder. But, in addition to infection and stagnation of bile as causes of catarrh, catarrh of the ducts may be set up by excretion through the bile itself of irritating products.

According to R. H. Chittenden¹⁷ calculi in man are composed chiefly of cholesterin, with pigment and calcium, or the so-called "mixed cholesterin calculi." The nucleus is usually composed of an insoluble compound of bilirubin, with calcium-salts. In studying the formation of gall-stones there are three factors to be considered, namely: cholesterin, bile-pigment, and calcium-salts, all of which are normal constituents of bile. Cholesterin is held in solution by sodium glycocholate and taurocholate.

¹⁶ Brit. Med. Jour., Oct. 30, '97.

¹⁷ Med. News, May 1, '97.

and only when it reaches a point of concentration, exceeding one-tenth the weight of the bile-salt, is it separated or crystallized. Bile in the gall-bladder contains a larger percentage of cholesterin than does liver-bile.

Retention of bile in the gall-bladder, by increasing concentration of the fluid, leads to a proportionate increase in the percentage of cholesterin. It is, therefore, easily understood that stagnation of the bile in the gall-bladder predisposes to the formation of biliary calculi. As to the origin of cholesterin, Chittenden disagrees with Naunyn, who attributes their origin solely to perverted metabolism in the epithelial cells lining the gall-bladder. While this may be true of the cholesterin in gall-stones, it is not true of the cholesterin in normal bile. He regards it purely as a genuine waste-product excreted by all the cells of the body, the liver included, and eliminated unchanged, not only through the bile, but through the fæces, skin, and milk as well. This perversion of metabolism is believed to be the result of a catarrhal process caused, perhaps, by the bacillus coli communis, which has migrated from the intestinal tract. The origin of the nuclei of biliary calculi, which is usually calcium-bilirubin, an insoluble compound, is next considered. It is known that, though the bile-pigments are held in solution by the alkali salt of the bile-acids, they are precipitated in the presence of an excess of calcium-salts. Since it is known that the amount of calcium-salts ingested in food bears no relation to the amount contained in bile, the explanation for this excess must be looked for elsewhere, and the writer sums it up as follows: The disposition of calcium-bilirubin must be connected with pathological changes, as a result of which the normal calcium of the bile must be trans-

ferred into insoluble compounds, or else, as appears quite probable, there is an increased secretion of calcium from the epithelial cells of the mucous membrane, by which the formation of insoluble compounds is facilitated.

Hartmann¹⁸ describes the work undertaken by his pupil, M. Mignot, for the purpose of determining the pathogenesis of biliary calculus. The calculi and bile from 5 patients were examined bacteriologically; both were found sterile in 2 cases; in 1 case the bacillus coli was found in both bile and calculus; in 1 case the bacillus coli was found in the calculus, with the bacillus and streptococci in the bile; in 1 case the bile was sterile, but the bacillus coli was found in the centre of the calculus. The formation of calculi was produced in animals by inoculation with the bacillus coli which had been attenuated by prolonged culture in bile mixed with bouillon. To produce calculi experimentally an extremely attenuated infection was found necessary, together with relative inertia of the gall-bladder, which prevents premature expulsion of the cholesterin crystals. The introduction of aseptic foreign bodies into the gall-bladder did not produce sufficient irritation to determine the production of calculi, and the same is true of stagnation of bile.

J. Cornillon¹⁹ has found that an intimate relationship exists between the uterine functions and biliary disorders. If a menstruating woman complains of nausea and pains in the back and right hypochondrium, if the uterus and adnexa are healthy, cholelithiasis should be thought of, even if no icterus is noticeable. The author believes this condition not explicable on reflex grounds, but

¹⁸ Presse Méd., March 2, '98.

¹⁹ Le Progrès Méd., '97.

Relapse of the neuralgia occurs much less frequently after destruction of the ganglion than after resection of the main branches. Hitherto the results of complete extirpation have not, however, been superior to those of simple destruction of the ganglion. Of 95 recorded cases of operation 17 proved fatal, the mortality of the temporal method (Hartley-Krause and Doyen) having been about $12\frac{1}{2}$ per cent., and that of Rose's method about $20\frac{1}{2}$ per cent. There has been no difference in the rates of mortality attending complete and incomplete extirpation of the ganglion.

PNEUMONIA IN CHILDREN.

Symptoms.—Schlesinger³³ states that mobility croupous pneumonia occurs most frequently at the fourth year. In the younger cases boys are attacked about twice as frequently as girls. The sick are usually of strong constitution.

Fever occurs, either without any prodromes, in about ten hours, or by slight prodromes lasting one or two days, in about three or four hours. The younger the child, the higher the fever and the more frequently the fever is remittent or intermittent.

Pneumonia of the apex usually has a more severe fever than that of the lower lobes. Lysis is less common than in adults.

During the course of the disease fever, temperature, and pulse are parallel. In crisis fever and pulse fall together, the respiration more slowly.

The exudate does not limit itself so strictly to the single lobe affected as it does in adults, but the borders of the neighboring lobes are likewise affected. The pneumonia usually develops without marked initial symptoms. Chill is much less frequent than in adults, and vomiting is much more common. Immediately

before the crisis the chill is frequently worse than usual.

Pneumonia migrans is the most fatal form in children. A relapse is very infrequent. There is always a leucocytosis in the height of the pneumonia. The number of red cells is lessened after the crisis. Bronchitis is a frequent complication in the beginning. Pleurisy is the most frequent complication, usually recovers, and seldom becomes purulent. Middle-ear disease is frequent, and is especially frequent in the first three years of age and with right-sided pneumonia.

Aufrecht³⁴ makes a sharp distinction between croupous or lobar and catarrhal or lobular pneumonia. The former is an ascending pneumonia, while the catarrhal form consists of different foci. He divides catarrhal pneumonia into three groups:—

1. A primary one in older children not suffering from any exanthematous disease.
2. That following infectious diseases accompanied by inflammation of mucous membranes.
3. The third group is met with in cachectic children, due to bad air, poor food, and in rachitis of the thorax.

In the first group we encounter high fever, in the second a long-continued fever, and in the third fever is absent.

We occasionally elicit dullness over both lower lobes of the lungs in pneumonia, accompanied by bronchial breathing in the upper lobe, and this happens in catarrhal pneumonia, which might therefore easily be taken for tuberculosis. In severe disease of the lower lobes, the upper do not expand well, so that quiescent air-columns are formed.

³³ Archiv f. Kinderheilk., vol. xxii, Parts III to VI.

³⁴ Der Kinderarzt, viii, 220, '97.

Etiology.—As a result of forty-one autopsies recently on children having primary and secondary pneumonia, H. Dürck³⁵ found a more or less complicated mixture of bacteria, among which the diplococcus pneumoniae was most often present. An histological division between lobular or pseudolobular pneumonia and lobar pneumonia cannot be carried out. The term "broncho-pneumonia" is justified only when the inflammation has been proved to travel from the terminal bronchi into the peribronchial tissue. In thirteen autopsies of children who died from other causes and whose lungs were normal, the writer always found bacteria; here, too, the diplococcus pneumoniae was most frequent. That the presence of bacteria in these normal lungs was not due to post-mortem infection, the writer proves by his discovery of the same bacteria in the lungs of domestic animals but recently killed and dissected. The writer concludes from this that the presence alone of bacteria in the lungs—which bacteria are present in the lungs of every healthy person—is not sufficient to cause pneumonia, but the organs must in some manner first undergo harm and damage. This he proves by experimental research.

Treatment.—In the management of hyperpyrexia, H. D. Chapin³⁶ says, the first point is to avoid any measures that will secondarily have a bad effect, and thus hinder future chances of recovery. All depressing remedies come under this head: as, for example, most of the coal-tar derivatives. The only exception is the occasional administration of small doses of phenacetin in sthenic cases where there is pain and nervous restlessness. Cardiac stimulants, such as caffeine or camphor, are always added. Where very high temperature keeps recurring, however, this remedy is not to

be continued. The application of water is, on the whole, the safest and most satisfactory method of controlling dangerous hyperpyrexia. Much may be accomplished by a thorough application of cold to the head. In order to be effectual the cold to the head must be thoroughly and continuously applied. Finely-cracked ice placed in bladders, from which the surplus air is expelled, may be molded around the head, especially at the vertex and occiput. Ice-poultices made by mixing finely-cracked ice with flaxseed-meal in oiled silk, placed around and on top of the head is most valuable. By this means a steady application of cold can be conveniently applied. If this is not accomplished, the next resource is the application of compresses directly to the chest. The child is stripped, wrapped in a blanket, and placed upon a table. A stimulant is given and the feet are placed in contact with hot bottles. A compress sufficiently large to surround the chest is plunged into water at a temperature of from 70° to 95° F., and applied to the chest. This is changed every ten or fifteen minutes until the desired result is obtained. In order to disturb the child as little as possible, the nurse is directed to apply the compress from the front, tucking in the ends until they meet in the back. The exact temperature of the water in a given case must be determined by the condition of the child and the temperature to be combated. A needless amount of cold is often employed. The addition of about one-fourth part of alcohol sometimes increases the value of these compresses. So long as the feet and hands are kept warm the cool compresses may be applied, but

³⁵ Deutsches Archiv f. klin. Med., B. 58, H. 4 and 5.

³⁶ Med. News, Nov. 19, '98.

on the features. The history of illness is usually a long one, extending over many years, and marked by continuous pain, repeated vomiting, and several attacks of hæmatemesis, sometimes trifling, sometimes severe. The pain commences, or is increased, on taking food, and becomes more and more intense as digestion with increasing acidity of the gastric contents proceeds, until it culminates in vomiting. The hæmatemesis occurs, for the most part, at the same times, but less frequently, though, in nearly all the occasions of vomiting, blood can be detected by the microscope or chemical tests even when not apparent to the naked eye.

The pain of gastric ulcer is especially excited by tea, alcohol, condiments, hot food or drink, and by the passage of a constant galvanic current. This is of use in distinguishing between ulcer and simple neuralgia of the stomach, where these relieve pain.

The ulcer tends to occur with greater frequency toward the lesser curvature and the posterior wall of the stomach.

Some indication of the position of an ulcer is occasionally afforded by the position in which the patient finds greatest ease from pain. It is usually such that the raw surface is above the level of the fluid and acid contents of the viscus.

The diagnostic value of pain, vomiting, and hæmatemesis consists largely in their close relation to the ingestion of food in gastric ulcer. In gastrodynia the pain is often more intense when the stomach is empty.

A very important indication of the existence and even of the position of a gastric ulcer is the presence of tenderness over the lesion when pressure is made on the abdominal wall. The symptoms and aspect of the subject of chronic ulcer are so very like those associated

with cancer, and the period of life so overlaps, that the distinction between the two is difficult and often impossible.

The third class embraces the cases in which perforation of the stomach-wall occurs, often as the first observable evidence of disease, though investigation may elicit a history of vague discomfort for a few days preceding the rupture.

There is a sensation of something's giving way in the upper abdomen, with the sudden onset of acute pain in the same region and the supervention of collapse. Vomiting or retching commonly occurs, and very soon peritonitis is established, with contraction and immobility of the abdominal muscles, including the diaphragm, and perhaps hiccough. In favorable cases the peritonitis may be strictly limited to the area around the perforation, leading to spontaneous cure, or it may be general and lead to death in a few hours or days. In addition to the sudden pain, collapse, and peritonitis, with rising temperature and small hard pulse, there are two other very characteristic signs of perforation. These are the cessation of vomiting, though spasmodic efforts may continue, and the distension of the abdomen with escaped gas, leading to the abolition of the hepatic and splenic dullness.

In hæmatemesis A. Robin²⁶ gives, as the reliable signs for the gastric origin of blood, the occurrence of mælena, or the presence of food or lactic acid in the vomited matter, along with, though less trustworthy evidence, the subjective feelings of the patient at the time, provided always that the examination of the lungs, mouth, and pharynx precludes the possibility of blood coming from these parts having been swallowed and then expelled from the stomach. Very copious

²⁶ Medico-Chir. Centralb., No. 10, '97.

hæmatemesis generally arises from a gastric ulcer, but the possible rupture of an aneurism into the stomach must be kept in mind, although this is usually preceded by smaller premonitory hæmorrhages. The previous history of the case is most important. In eighty out of a hundred cases large hæmorrhages arise from gastric ulcers. In some, however, the source of the blood may be an œsophageal or a duodenal ulcer, but this is very rare.

More common causes are cancer of the stomach, alcoholic cirrhosis of the liver, and hysteria. If the presence of a gastric ulcer or cancer can be disproved, hæmorrhage owed to vicarious menstruation or to varicose vessels may be suspected. Varicosity of veins in the œsophagus and the rupture of miliary aneurisms in the stomach-wall may be cited as pathological curiosities from which hæmatemesis has been caused. Hæmorrhage also occurs during the course of certain infectious diseases. The hæmatemesis of uræmia is due to congestion of the stomach-walls.

Vogel²⁷ calls attention to the fact that, while performing post-mortem examinations in children, and especially among the newly born, small superficial and multiple ulcerations of the gastric mucous membrane are frequently met with. Occasionally hæmorrhagic erosions are found.

These erosions are scattered over the mucous membrane of the stomach, and are distinguished by their irregular borders, their blackish centre, and by the numerous spots of ecchymosis which accompany them. At other times one meets with those little ulcerations of the gastric follicles to which Billard has assigned so important a rôle in the pathology of *melæna neonatorum*.

Cases of perforating ulcer in children

are so rare as to make the following case particularly interesting. The child, 2 months old, had suffered for a month from diarrhoea and vomiting. The vomiting was continuous, the vomited matter being of a greenish color. The abdomen became tympanitic, and the child gradually sank from exhaustion. On opening the abdomen a pouch shut off from the rest of the peritoneum was observed, containing a very acid yellow fluid in considerable quantity, situated behind a fold of omentum. This pouch was bounded above by the posterior surface of the stomach and the inferior aspect of the liver, behind by the pancreas, and below by the transverse colon. On the posterior wall of the stomach toward the smaller curvature, and in the neighborhood of the pylorus, a perforating round ulcer was detected, having clean, sharply-cut edges, and being about the size of a fifty-centime piece. The stomach contained a fluid similar to the contents of the pouch by which it was connected by means of the perforation. No other lesion of the gastric mucous membrane existed, nor was anything else abnormal found in the abdomen.

Kuttner²⁸ reports a case of ulcer in which pain in the epigastrium came on acutely and was associated with obstinate constipation. Enemata of oil relieved both symptoms temporarily; but the pain recurring, associated with resistance in the epigastric region, operation was performed, and an abscess was found in the liver, through which gastric contents were discharged. At the autopsy an ulcer was found on the posterior wall of the stomach, perforating into the liver.

Dieulafoy²⁹ remarks that, in the pres-

²⁷ *Rev. Mens. d. Mal. de l'Enf.*, Feb., '98.

²⁸ *Brit. Med. Jour.*, May 29, '97.

²⁹ *Presse Méd.*, July 25, '97.

ence of a sudden attack of peritonitis, the physician should not attribute it only to appendicitis, salpingitis, intestinal perforation, or perforations of the biliary tracts, but to perforations of the stomach as well, although there may be no history of previous gastric troubles.

Etiology.—Lyman³⁰ mentions, as predisposing causes of gastric ulcer, the conjunction of local injuries with general diseases, such as chlorosis, tuberculosis, and syphilis, which tend to produce fatty or amyloid degeneration of the arterial walls in the gastric mucous membrane. The local injury may result from a blow or pressure from without, and from fragments of bones or other hard bodies with sharp angles introduced with the food. Such injuries in a healthy person will only cause slight temporary erosions, such as are common in catarrhal inflammation. In persons with a disturbance of the healthy circulation in the mucous membrane points will be left insufficiently supplied with blood to withstand the eroding action of the acid gastric juice, should even a small local injury afford the means for its direct action on the tissues. Thus the true gastric ulcer is not surrounded by inflammation; the surrounding tissue is sufficiently supplied with blood to withstand the acid and pepsin, while the great majority of these ulcers are found in the part of the stomach-wall which remains in contact with the fluid contents during the whole of each digestive act.

Widal and Meslay³¹ assert that in endeavoring to settle the infectious origin of ulcers we cannot depend on the finding of the pathogenic micro-organism, for the latter is only discoverable in the beginning stages, in the region of the specific ulcer; when the round ulcer has once formed, the organisms are no longer

found,—the ulcer has lost all signs of its specific etiology.

Prognosis.—According to an editorial,³² the probability of a gastric ulcer's perforating the stomach-wall depends upon its situation mainly. An ulcer on the anterior surface of the stomach will almost certainly lead to perforation if the ulcerative process continues; but should the ulcer be situated on the posterior wall adhesions form very readily, so that the stomach becomes adherent to the diaphragm or to the left lobe of the liver. Perforation of the diaphragm by a gastric ulcer is decidedly a rare occurrence, and even when it does occur the pleura is much more frequently affected than the pericardium. Of twenty-eight cases of perforation of the diaphragm by gastric ulcers collected by Ludwig Pick, only ten were cases in which the ulceration had perforated the pericardium.

The duration of life after perforation of the stomach, says Morse,³³ may be estimated at twenty-four hours; hence the importance of early and distinct diagnosis cannot be exaggerated. The shock following perforation is severe, and its effect can be observed to increase so rapidly that it is apparent the chances of success are diminishing in direct proportion to the length of time that is allowed to elapse between the occurrence of the injury and its repair by surgical means.

Treatment.—Fourrier's³⁴ method of treating ulcerative conditions of the stomach is by introducing through a stomach-tube 2 1/2 or 3 drachms of subnitrate of bismuth, suspended in 15

³⁰ Jour. Amer. Med. Assoc., March 13, '97.

³¹ La Semaine Méd., March 17, '97.

³² Lancet, Aug. 28, '97.

³³ Brit. Med. Jour., Feb. 13, '97.

³⁴ Indian Lancet, Nov. 16, '97.

ounces of water. Before doing this any food or mucus is cleared out by washing with a solution of bicarbonate of soda. The bismuth and water is rapidly introduced and allowed to remain for ten minutes, the tube being removed. The bismuth is thus allowed time to deposit on the inflamed and ulcerated mucous membrane, and the water is then carefully withdrawn and should come away clear, leaving the salt behind. Marked success obtained with the method in gastric ulcer in chlorotic girls.

Olivetti³⁵ says that large doses of bismuth, 9 to 10 $\frac{1}{2}$ ounces a day, given in hyperacidity and ulcer of the stomach; single doses, 2 $\frac{1}{2}$ to 4 drachms, were well borne. By the means of test-breakfasts the author found that the bismuth has no influence either on the production of hydrochloric acid or on the contractility of the stomach. The favorable action of bismuth in hyperacidity and in *ulcus ventriculi* is therefore a purely mechanical one; the bismuth forms a protective layer all over the mucous membrane of the stomach and thus prevents the sensitive parts from coming in direct contact with the hydrochloric acid.

Fremont³⁶ regards gastric hyperacidity as the principal causative factor. The first indication is to relieve the gastric juice of its digestive activity. For this two methods, which are readily combined, present themselves: Milk fixes the hydrochloric acid; the alkalies neutralize it. The neutralized juice does not digest. The second indication is to cover the surface of the ulcer so as to prevent contact with the gastric juice. To neutralize a fluid which is constantly being secreted, frequent doses are necessary. For instance, 2 or 3 tablespoonfuls of warm (100.4° F.) milk are given every thirty minutes for twenty consecutive hours, to which 1 grain of calcined

magnesia, 1 grain of prepared chalk, 2 grains of bismuth subnitrate, and 4 grains of sodium bicarbonate are added. During the remaining four hours of the night this dose is given every hour. The amount may even be increased if the pain is not relieved. If there is repeated hæmorrhage, ice should not be given internally, but an ice-bag upon the stomach is beneficial.

Winternitz³⁷ states that the form of a round ulcer of the stomach seems to show that the nervous system has a part in its development, as is the case with perforating ulcer of the plantar region. The object of hydrotherapy in these conditions is to cause the spasms of the vessels of the mucous membrane of the stomach to disappear. For this purpose baths (at 50° to 54° F.), and of three to five minutes' duration, are given, and applications of cold cloths upon the abdomen, or a cold-water coil upon the cardiac region. The symptoms which yield most easily to this treatment are *cardialgia* and *hæmatemesis*. It is better to introduce cold fluid into the rectum, a measure which will reduce the intra-gastric temperature, and produce an intense contraction of the gastric vessels. This contraction is only for a short time, but it will often continue long enough to stop the bleeding. To make it even more certain pieces of ice may be introduced into the rectum.

Leube³⁸ extols the advantages of the medicinal and dietetic treatment of ulcer of the stomach. In a large proportion of cases treated by the author's method—which consists in rest, low diet, and hot external applications—complete and

³⁵ *Gaz. Med. de Torino*, No. 48, '97.

³⁶ *Bull. Gén. de Thé.*, 23e liv., p. 909, '98.

³⁷ *Blat. f. klin. Hydrother.*, May, '98.

³⁸ *Centralb. f. Chir.*, No. 28, '97.

permanent cure has been effected in the course of three or four weeks. In some few cases, however (about 4 per cent.), it will be found advisable to apply for aid of the surgeon.

Surgical intervention is positively indicated in cases of small, but frequently repeated, hæmorrhages from the stomach. A single attack of profuse bleeding is not regarded as an indication for operation. Profuse hæmatemesis, unless caused by the erosion of a coronary artery, seldom causes death. Operative treatment, especially the performance of gastro-enterostomy, is indicated in cases of gastric ulcer, in which intense pain and frequent vomiting lead to the diagnosis of spasmodic stenosis of the pylorus. When these symptoms do not yield to rest and medical treatment, and the patient is threatened with death from inanition, the surgeon should be called in at once.

J. Mikulicz³⁹ thinks that the danger to life in which a patient with a gastric ulcer finds himself is, to say the least, no less, and probably is greater, than the danger which the patient incurs in submitting to an appropriate and properly executed operation. Surgical treatment of uncomplicated gastric ulcer is to be adopted if phenomena appear which directly or indirectly threaten the patient's life (frequent hæmorrhages, increasing emaciation, beginning purulent perigastritis, suspicion of carcinoma), and if repeated internal treatment gives either no result or one only of short duration, and the patient, through pain, vomiting, or dyspepsia, is seriously affected in his ability to work or to enjoy life.

MOVABLE KIDNEY.

Symptoms.—Lewis⁴⁰ states that the symptoms of movable kidney are very

MOVABLE KIDNEY. SYMPTOMS.

variable. In most cases they are quite pronounced, but the condition frequently does exist with absolutely no symptoms at all. These are general exceptions, however, and the local, reflex, and general symptoms which are usually manifested by a movable kidney are quite marked. Pain is the most constant symptom, occurring as a dull, constant ache in the back and lumbar region. After violent exercise, severe labor, long riding or dancing, this dull ache sometimes becomes excruciatingly sharp and lancinating, shooting down into the groin, and in the male occasionally causing retraction of the testicle. In the female the occurrence of the menstrual epoch seems to excite the pain of movable kidney, and such pain is often mistaken for that of dysmenorrhœa.

The nervous symptoms of renal mobility are manifold, being largely reflex in their origin. Irregular action of the heart and headache are the most prominent and frequent of these, but gastric and intestinal indigestion, constipation, menstrual disorders, and countless aches and pains can all be mentioned as common manifestations of the condition. The headache is many times quite severe and referred by the patient to the top of the head. The general symptoms are also nervous in origin, and vary in degree from slight neurasthenia to deepest melancholia or hysteria.

Einhorn⁴¹ gives the symptoms of movable kidney as follows:—

1. A feeling of traction and weight in the abdomen.
2. Quite violent palpitation in the epigastrium (pulsation of the abdominal aorta).

³⁹ Centralb. f. Chir., July 17, '97.

⁴⁰ N. Y. Med. Jour., April 23, '98.

⁴¹ Med. Rec., Aug. 13, '98.

3. Disturbances are usually more pronounced when standing or walking, and disappear on lying down.

4. Frequent urination, occasionally attended with slight burning.

5. Pains in the sacral region after slight exertion.

6. In women the discomfort is usually increased at the time of menstruation, and considerable improvement manifests itself during pregnancy.

These six symptoms need not always be present; they may all be absent, or occur separately.

Most of the gastric and intestinal symptoms, such as pains, eructations, nausea, occasional vomiting, irregularity of the bowels (chiefly constipation, sometimes diarrhoea), which are present in persons with movable kidney, occur usually independently of the latter. Gastric neuroses, which originate by reflex action from a movable kidney, are met with, but rarely; among them are nervous vomiting and nausea. That cases of periodic attacks of continued gastro-succorrhoea can be regarded as reflex symptoms of a movable kidney appears doubtful.

Cordier⁴² deduces the following propositions: 1. A movable kidney often produces a dilated stomach, with all the accompanying symptoms of a disease of the latter. 2. It is a fruitful source of gall-stones, by the pedicle's producing a partial obstruction of the common duct. 3. The bending of the ureter often gives rise to a hydronephrosis. This, in turn, is sometimes converted into a pyonephrosis. 4. It may produce death by a complete strangulation by a torsion of the vessels and ureter. 5. By dragging on the abdominal aorta and kinking of the vena cava, a condition simulating an aneurism of these vessels may be produced. 6. Pain referred to the region

of distribution of the spinal nerves is often induced by a movable kidney's disturbance of the abdominal basin. 7. A general nerve-exhaustion (neurasthenia) is frequently induced by this condition's interfering with digestion, assimilation, and elimination.

Leonard A. Bidwell⁴³ mentions two different forms of movable kidney. In the first variety the organ is freely mobile and forms a definite abdominal tumor, the term "floating kidney" being used for this condition; in the second variety the organ can be displaced only to a small extent and the affection is called "dislocated kidney." The symptoms of these two forms vary considerably and it is often found that they are more severe in the cases where the displacement of the kidney is least marked; in some cases of floating kidney the accidental detection of an abdominal tumor has alone drawn attention to the condition.

Movable kidney was at one time considered to be a rare affection, but some German statistics, made after examination of a large number of patients in several hospitals, show that some degree of mobility of the kidney is present in about 1 in 250 patients, although in a great number of cases the patients do not suffer inconvenience from this mobility. The right kidney is affected much more frequently than the left and the proportion is stated to be 11 to 1. The symptoms usually complained of are pain of a dragging nature in the loin and considerable tenderness over the kidney. In some cases there may be symptoms resembling those of renal colic. This may be accompanied by in-

⁴² Amer. Jour. of Obstet. and Gynec.; Canada Lancet, July, '98.

⁴³ Lancet, April 16, '98.

creased frequency of micturition and sometimes even by alteration in the urine itself. These latter symptoms are met with more frequently in cases of dislocated kidney and are probably due to a kink of the ureter which produces obstruction of that duct. We also find other symptoms in connection with this condition, such as severe digestive disturbances, especially pain and vomiting; these crises may resemble gall-stone colic, and the gall-bladder has more than once been explored for attacks in reality due to floating kidney. Very severe attacks of migraine are also sometimes associated with floating kidney.

Diagnosis.—According to Lewis,⁴⁴ the diagnosis of renal mobility is not always easy. The history, however, of pain in one or both sides of the abdomen, a dragging sensation in the back, increased by exercise, together with pronounced reflex symptoms, should always prompt an investigation of the kidneys and their position.

The examination is best conducted by Israel's method of counter-pressure, with the patient in the dorsal position. The bowels should previously have been freely moved in order to remove any fecal accumulation which might be mistaken for the renal tumor. The clothes are completely loosened and removed sufficiently to expose the whole abdomen.

One hand is placed over the hypochondriac region, the other on the back opposite the normal position of the kidney, just below the last rib. Then, while deep pressure is made by the hand in front and counter-pressure by the one behind, the whole side should be palpated, the patient at the same time being told to breathe naturally, flex the limbs, and relax the muscles of the abdomen as much as possible. The kidney

is usually found as a distinct, renal-shaped body, quite sensitive to the touch, and giving rise to a peculiar sickening pain on pressure. Failing to determine the location of the kidney in the dorsal position, the hands should be placed as before and the patient examined while standing with the body bent forward over a chair. Still another way is to have the patient assume the knee-elbow position, and this way may prove the most satisfactory after all.

Wandering or moving spleens may be mistaken for renal mobility, and Morris has demonstrated the fact that tumors of the gall-bladder are extremely difficult to differentiate from movable kidney.

Etiology.—H. Edwin Lewis⁴⁵ regards movable kidneys as of two varieties, congenital and acquired.

The congenital movable kidney is commonly spoken of as a floating kidney, since it is suspended in the abdominal cavity by a mesonephron, which completely surrounds the kidney and tethers it to the abdominal wall. The acquired form never has a mesonephron and is seldom capable of such extended motion as the floating kidney of strictly congenital form. This congenital form of movable kidney is simply an anomaly. For some reason the peritoneum, instead of only covering the anterior face, becomes reflected entirely around the kidney, and is then attached to the posterior abdominal wall. As years go by, the constant tension on the suspensory ligament or mesonephron caused by the weight of the kidney tends to draw it out and increase its length, and when the age of adult life is reached the kidney is, indeed, a floating kidney.

⁴⁴ N. Y. Med. Jour., April 23, '98.

⁴⁵ *Ibid.*

The acquired form of movable kidney may be due to many causes, which are classified as predisposing or exciting.

The predisposing causes are chiefly sex and general emaciation. By far the greatest number of renal displacements occur in females, this greater frequency of movable kidneys in females being undoubtedly due to changes in the visceral relations attending pregnancy and tight lacing.

General emaciation, however, is the principal predisposing cause of movable kidney.

The exciting causes of renal mobility are many, depending, of course, on the subject's occupation, sex, habits, and general condition; but those most common are falls, strains, frequent pregnancies, tight lacing, enteroptosis, enlargement of the liver, and the removal of large abdominal growths.

Several other causes can produce displacements of the kidney, but it is extremely rare to trace a movable kidney to a single cause, and, as has been said before, such a condition in almost every case comes from a number of forces which together produce a common result.

Treatment.—According to Einhorn,⁴⁶ the abdominal bandage is a very valuable resource if one expects from it no more than a relief of the symptoms which result from the abnormal mobility of the kidneys (and other prolapsed abdominal organs). If, however, it is expected that this measure will at the same time remove all the existing disturbances (gastric and intestinal affections), one will meet everywhere with disappointment.

The disturbances of the stomach and intestinal canal must be treated according to the principles prevailing at the present time.

Besides a serviceable, well-fitting abdominal bandage (a cushion for the kidney can almost always be omitted), the medical treatment consists in promoting the nutrition and strengthening the organism. The former is done by a liberal diet (forced feeding), so that an increase in weight takes place. The latter is accomplished by gymnastics, by general massage, and electricity. In a few cases, after a considerable increase in flesh has occurred, the writer has observed not only a disappearance of all the subjective symptoms, but also the return of a previously movable kidney in the second or even third degree to its normal position, so that the organ could no longer be palpated.

Shall the treatment of movable kidney be surgical or are medical therapeutic measures sufficient? The writer's experiences point decidedly in favor of medical treatment. While, in general, he is opposed to operative treatment in cases of floating kidney, he believes that in rare instances nephrorrhaphy may be justifiable, especially when a connection between the symptoms (both the direct as well as the gastro-intestinal disturbances) and a movable kidney appears to be proved in a marked degree, and the above-described dietetic-mechanical methods of treatment have completely failed. At any rate, every surgeon, before advising operative intervention in movable kidney, should completely exhaust the suggestions and remedies of the physician.

In regard to treatment, Knapp⁴⁷ questions the need of treatment in mild cases. Many cases of dislocated kidney continue for years and never have a symptom to make the condition evident.

⁴⁶ Med. Rec., August 13, '98.

⁴⁷ Zeitsch. f. Heilk., B. 17, H. 2, 3.

There, are, however, symptoms which require treatment. Mechanical support should be directed to the support of the intestines in general. He does not advocate the use of pads, etc., as such appliances do not act surely. Bandages, if employed, must be suited to the individual case. He recommends massage after the method employed by Thure-Brandt. He does not advocate operative treatment, believing it does not secure relief.

Keller⁴⁸ considers pregnancy unfavorable to the development of movable kidney, but after delivery everything tends to produce it. He advises, as prophylactic measures, the wearing of a belt tighter above than below, remaining in bed at least three weeks, not sitting up before the seventeenth day, and resorting to the sound rather than allowing efforts during urination. A belt should be worn during pregnancy if the abdomen is very much stretched and at least six weeks after delivery. Pads are useless, but very thin women may be benefited by a bandage with spring plates. The effect of nephrorrhaphy is too often transient for it to be recommended. Nephrectomy is the last resource.

The necessity for active treatment will, of course, depend upon the severity of the symptoms and also upon the condition of the kidney,—i.e., whether floating or dislocated. Bidwell⁴⁹ says that in the former case, where little is complained of except the presence of a tumor, the application of a properly-fitting belt or truss will probably be all that is required.

In cases of floating kidney where neither a belt nor a truss can be worn, and in practically all cases of dislocated kidney, the question of operative interference must be considered. Two operations have been proposed, namely:

nephrectomy and nephrorrhaphy. The first-named, however, is unnecessary and should not be undertaken except in cases of floating kidney with a distinct mesonephron, in which the whole of the kidney-substance has been destroyed by long-continued hydronephrosis. In all other cases the operation of nephrorrhaphy should be performed.

Cordier⁵⁰ says that nephrorrhaphy is a safe and effective surgical procedure. All cases of movable kidney, if accompanied by symptoms pointing to the kidney as the source, should be operated upon.

Cramer⁵¹ states that extirpation of the affected kidney in cases of advanced and extensive hydronephrosis is a difficult operation, owing to the absorption of perirenal fat and firm adhesions of the sac.

R. Harvey Reed⁵² calls attention to the futility of attempting to replace a kidney in its natural position and hold it there by means of a tight bandage. The bandage could not be made tight enough to effect this object without interfering with the circulation. He uses the abdominal incision over the normal position of the kidney. The incision is made just large enough to introduce the fingers into the cavity and push the intestines to one side, so as to give a clear field for observation. A long curved needle, with a strong handle, and armed with one thread of silk, kangaroo-tendon, or other material, is passed through the upper border of the kidney between the eleventh and twelfth ribs, and on through the muscular wall out to the

⁴⁸ *Monats. f. Geb. u. Gyn.*, Jan., '98.

⁴⁹ *Lancet*, April 16, '98.

⁵⁰ *Amer. Jour. of Obstet. and Gynec.*; *Canada Lancet*, July, '98.

⁵¹ *Centralb. f. Chir.*, No. 21, '97.

⁵² *Med. Rec.*, July 17, '97.

back. The needle is unthreaded and withdrawn. The other end is threaded and introduced at a short distance from the point traversed by the first; the threads are then tied over a piece of gauze in a manner similar to the fastening of a staple-stitch. The sutures are left in for from ten to fourteen days.

Lewis⁵³ affirms that the only means which promise permanent relief to the symptoms resulting from movable kidney are those which belong to the domain of surgery. Nephrorrhaphy is the operation most often to be employed.

Nephrectomy is rarely necessary and should only be employed in those extreme cases in which the kidney is so far diseased as to be entirely useless and an irremediable source of danger to the patient if left in the abdominal cavity.

PRURITUS.

Etiology.—Sarbo⁵⁴ records two cases of pruritus in general paralysis. Both belonged to the class of cases in which no other skin-change precedes the irritation, which was, moreover, on each occasion at first local, and not general. The nervous system can act in two ways in the causation of pruritus, either, as in the case of pregnancy, completing the arc of a reflex action or producing the irritation as a symptom of its own disease. The skin-symptoms in general paralysis differ from those in tabes and other affections of peripheral nerves in three respects: they lead to violent scratching instead of mere rubbing, they are not associated with trophic cutaneous lesions, and they are eventually general and not localized. With the extinction of the functions of the cortex during the progress of the disease the pruritus disappears as well. The author concludes that pruritus without accompanying skin-changes may be a prodromal symp-

tom of general paralysis, and that it diminishes, and eventually disappears, with the progress of mental decay.

Herman⁵⁵ makes the following division of cases of pruritus vulvæ:—

1. Adventitious, due to dirt, pediculi, worms, or pessaries.

2. Skin diseases: eczema, herpes, furuncle, or follicular, urticarial, and diabetic dermatitis.

3. Irritating discharges, such as gonorrhœa, cancer, senile endometritis; also cases in which no visible discharge is apparent.

4. Venous congestion due to heart, liver, and lung diseases.

5. Nervous affections.

According to William Murrell⁵⁶ in exceptional cases both opium and morphine produce a rash accompanied by intense itching. The "pruritus opii" has been frequently noticed, and is described as an annoying and unbearable affection. The rash presents a scarlatinoid appearance, and even the mouth and throat may be attacked by erythematous inflammation.

Prognosis.—Dirner⁵⁷ admits that the diabetic variety of pruritus is curable; so is that form of pruritus due to microbes in vaginal or cervical secretion. The intractable cases are clinically and pathologically primary. They represent subacute inflammation of the vulvar integument and fibrosis of the Pacinian corpuscles and other delicate structures. Dissecting of the skin involved in this morbid process, "vulvitis pruriginosa," alone effects a cure.

Treatment.—In a series of experi-

⁵³ N. Y. Med. Jour., April 23, '98.

⁵⁴ Pester. Med.-Chir. Presse, No. 37, '97.

⁵⁵ Brit. Med. Jour., Nov. 20, '97.

⁵⁶ Manual of Pharmacology and Ther., p. 296.

⁵⁷ Centralb. f. Gynäk., No. 5, '97.

ments at St. Luke's Hospital, Paris,⁵⁸ to determine what will cure itch in the shortest time, forty-one different preparations were employed. Of these the following ointment cured in the smallest number of days:—

Sublimated sulphur, 2 ounces.

Subcarbonate of potash, 1 ounce.

Adeps simplex, 8 ounces.

Ruge⁶⁰ expresses the opinion that the essential part of the local treatment is thorough disinfection of both vulva and vagina. It should be done as carefully as if a vaginal operation were to be performed. He washes, soaps, and then disinfects with sublimate solution the vulva, vagina, and cervix till all pathogenic micro-organisms have been removed; then applies to the vulva an ointment of carbolated vaselin (3 to 4 per cent.). The physician should carry out this local treatment himself, using his fingers, but not brushes or instruments, which might cause fresh lesions. The positive and immediate results are in most cases surprising. In severe as well as in mild cases, even when complicated with deep and extensive ulceration, cure is rapid. For some years he has thus treated systematically all cases of pruritus, whether leucorrhœa was present or not, with surprising results.

Fioux⁶⁰ advocates thorough local treatment of pruritus, to be undertaken by the doctor himself. A woman under his care was tormented with pruritus which caused sleeplessness, loss of appetite, and mental irritability. She did not consult anybody for a fortnight, but gave herself sublimate injections twice daily, and kept cold-water compresses on the vulva. As she became worse, she consulted the writer. He found no objective symptoms beyond superficial scratches, nor were there any traces of discharge,

oxyurides, or any other parasites. He declined to prescribe any lotion or ointment, but at once practiced Ruge's antiseptic toilet of the vulva. The vulva, vagina, and cervix were thoroughly washed with soap, all folds and creases in the mucosa being opened up; then the vagina was freely washed out with a weak sublimate solution, some 16 pints being used. This process lasted a quarter of an hour, and definitely cured the patient. Ruge usually performs the "toilet" two or three times, and applies to the vulva after each sitting an ointment of carbolized vaselin. The writer saw his patient six weeks after the treatment by washing, and the pruritus had not recurred.

Herman⁶¹ recommends:—

1. White-precipitate ointment for pediculi. For dirt, worms, or pessaries absolute cleanliness and changing of the material of the pessaries.

2. For eczema (usually affecting fat, elderly women, and those pregnant), when due to pruritic organisms, warm hip-baths, with liquor carboni detergens added, and the parts powdered with boric acid. When due to diabetes, general treatment. For follicular pruritus it is recommended to squeeze out the contents of follicles and apply corrosive sublimate, 1 to 2000.

For irritating discharges, antiseptic and sedative douches and sedative dusting-powders on the vulva, as a saturated solution of borax and solution of boric acid.

3. Pruritus, when occurring in aged women, is frequently a symptom of de-

⁵⁸ Manitoba and West Canada Lancet, Dec., '97.

⁶⁰ Zeitschr. f. Geburtshülfe u. Gynäk., B. 34, S. 355.

⁶¹ La Gynécologie, Feb. 15, '98.

⁶² Brit. Med. Jour., Nov. 20, '97.

generate changes, and treatment usually fails.

Von Mars⁶² in three cases of pruritus noted that the greater labia were, probably from changes due to swelling or atrophy, in a condition of entropion, hairs being seen turned inward on the vestibule and clitoris. When the hair was carefully trimmed the pruritus at once ceased. Such treatment, of course, would be difficult to carry out for long, as the stumps of the hair soon become irritating, and the writer, therefore suggests that a thin elliptical piece of skin be excised from the outer limits of each labium majus, so as to produce an artificial ectropion of the labia.

In pruritus of the genitalia, H. Robb⁶³ remarks that in treating a case the main thing is to discover the cause. There should be examined (1) the external genitals for skin-eruptions; in doing this it will be well to obtain scrapings and examine them with the microscope for parasites. 2. There should next be examined the cervix for signs of leucorrhœa, and to ascertain the general condition of the uterus and appendages. 3. An examination should be made per rectum. 4. Chemical and microscopical examination of the urine should never be omitted. The presence of enlarged sebaceous glands or any signs of malignant disease should be carefully looked for. Hæmorrhoids or fissures of the anus should be treated, and the vulva should be kept free from all irritating discharges. The general health of the patient should never be forgotten. When the vulva is dry, too frequent bathing should be avoided and the surface should be kept moist, being treated, not with evaporating lotions, but with ointments. Suppositories containing codeine or opium and hyoscyamus at night will often give the patient relief. Internally,

potassium bromide and belladonna tend to decrease irritation of the peripheral nerves.

Labusquière⁶⁴ regards pruritus of the vulva as a morbid condition either primary or secondary, for which the physician is by no means seldom consulted. It is necessary to keep always in mind that pruritus may be the expression of a general condition (diabetes, neurasthenia, arthritism, albuminuria, tuberculosis, etc.), and to direct the treatment so as to influence this condition, else whatever the local treatment adopted it is bound to fail. Even if a general condition is found to exist, a genital examination should never be neglected.

In certain cases this examination will reveal definite pathological conditions more or less localized in an area to which the pruritus is circumscribed—conditions entirely capable of maintaining the pruritus (such as herpes, leucoplasia, vaginitis, metritis, and cancer of the uterus), and it is to these that treatment must be applied. It is always necessary, however, in order to estimate the importance of the pathological conditions, to distinguish between primitive lesions and those which result simply from scratching and other post-pruriginous causes. In other cases, again, careful investigation, both general and local, does not reveal any pathological conditions on which the morbid symptom can be reasonably considered to depend. In such cases we can only come to the conclusion that the pruritus is essential or idiopathic, a condition which some authors maintain depends upon some central cause.

Apart from the cases in which a gen-

⁶² *Monats. f. Geburtsh. u. Gynäk.*, April, '97.

⁶³ *Ther. Gaz.*, Sept. 15, '96.

⁶⁴ *Annales de Gynec. et d'Obstet.*, Jan., '97.

eral medicinal treatment, including a rigorous dietetic regimen, is indicated, and from those in which the discovery of a definite localized process leads to the application of well-recognized therapeutic means, satisfactory results can often be obtained by very hot lotions (from 110° to 120°) forming solution of carbolic acid varying from 1 to 2 per cent. or very cold lotions (about 40°) with the same medication. Brocq has suggested recently for pruritus of the scrotum a formula containing carbolic acid, glycerin, alcohol, and distilled water, the carbolic acid being in the proportion of about 15 grains to the ounce. This is applied by putting 1 to 4 spoonfuls of the solution in a glass of hot water—as hot as can be borne by the patient. He administers also 10 grains of antipyrine twice a day in cases in which crises of irritation occur at regular intervals. Corresponding treatment may be applied with advantage to pruritus of the vulva.

Among the useful applications are mercurial lotions. Tarnier has proposed a formula which has given him very good results. Its essential feature is its strength as a solution of perchloride of mercury, namely: 1 in 500. It contains a drachm of alcohol to the ounce, and a little rose-water. This liquid is employed at its full strength, and applied night and morning. The parts are carefully washed with tepid water, and then the lotion is swabbed over them with a piece of sponge. The application at first causes a considerable amount of burning, which may be relieved by bathing the affected parts for a few minutes with plain cold water. The applications become rapidly less painful, and a cure is usually produced in a very short time.

There are, however, a number of cases in which all the ordinary treatment fails, leading to the necessity for surgical in-

terference by means of scarifications, section of nerves, and resection of larger or smaller portions of the tissues which are the seat of the pruritus.

D. W. S. Samways⁸⁵ treats anal pruritus by the application of collodion. It acts in the same way as the elastic stocking used in varicose veins of the leg. The application causes smarting for a few minutes, which can be prevented by the previous application of cocaine, but there is no itching for twelve to twenty-four hours after the collodion is applied.

José Codina Castelví⁸⁶ recommends the following in pruritus ani. Carbolic acid should be administered in doses of from $\frac{3}{4}$ to $1\frac{1}{2}$ grains per day, in pill form, in conjunction with valerianate, as in the following formula:—

R Carbolic acid, $\frac{3}{4}$ grain.

Extract of valerian, $1\frac{1}{2}$ grains.

Powdered valerian, 3 grains.—M.

All excesses should be avoided, and horseback and bicycle riding must be prohibited. The bowels must be regulated, and before each defecation the anus and its margins are to be smeared with vaselin. The pruritic region should be washed, on arising in the morning and on retiring, with an infusion of cocoa-leaves, which should be used as hot as can be borne. To this infusion one can add a glycerin-solution of carbolic acid, so that the latter will exist in the mixture in the proportion of 1 or $1\frac{1}{2}$ per cent. Every third day the parts affected must be touched with a solution of nitrate of silver of 5 per cent.

After each movement of the bowels the region is to be washed with cotton soaked in the above solution, and after being cleansed the parts are dusted with

⁸⁵ Brit. Med. Jour., Nov. 21, '96.

⁸⁶ Gaseta Medica Catalana, Tome xx, Num. 23, '97.

a powder composed of talcum and zinc oxide. To calm the acute crisis, a suppository composed of the following may be inserted:—

℞ Cocaine hydrochlorate,
Morphine, of each, $\frac{3}{10}$ to $\frac{3}{4}$
grain.
Cocoa-butter, q. s.—M.

Shoemaker⁶⁷ recommends the following for nervous pruritus of the menopause:—

℞ Zinci oxidi, $4\frac{1}{2}$ grains.
Quin. sulphat., 36 grains.
Aloin, $2\frac{1}{4}$ grains.
Extr. et pulv. liq., q. s.

Rt. pil. xx.

Sig.: One pill three times a day.

Brocq⁶⁸ recommends that in cases of severe pruritus when parts have been much excoriated by scratching, the whole surface should be frequently washed with a boric lotion of camomile to which saponified coal-tar has been added. (Both preparations are con-

tained in the French Pharmacopœia.) A soothing ointment of vaselin and zinc oxide is then applied, and when the irritation has subsided the following powder is dusted freely over the parts and is kept in place by a covering of absorbent cotton-wool.

The powder is a mixture of—

℞ Powdered camphor, 30 grains.
Oxide of zinc, $7\frac{1}{2}$ drachms.
Subnitrate of bismuth, $7\frac{1}{2}$
drachms.
Talc, 10 drachms.—M.

When the powder has been used for a few days, and the inflammation has subsided, the itching may be painted every other day with a weak solution of nitrate of silver, and the introduction of a suppository of cocoa-butter with cocaine and belladonna will often give relief at night. Should be used freely until the patient is well.

⁶⁷ Med. Rec., July 9, '98.

⁶⁸ Jour. de Méd. et de Chir. Prat., '97.

Cyclopædia of Current literature.

A MODEL HOSPITAL FOR THE INSANE.

About thirty miles from Baltimore, a little off from the main line of the Baltimore and Ohio Railroad, is situated this model hospital for the insane, where the superintendent, George H. Rohé, rules the domain of 800 acres by the touch of an electric button.

The distinguishing features of this new establishment for ministering to men with minds diseased may be briefly stated to be: (1) impressing upon the inmates the fact that they are patients under treatment in a hospital; (2) dis-

persing with every form of mechanical or visible restraint or irritating means of compulsion; (3) finding appropriate occupation, especially out-door work, for everyone, utilizing the skilled labor of mechanics, or giving the Polish Jew, who never knew other instrument than the needle, the task of mending clothing and bedding; (4) encouraging and exacting habits of personal cleanliness, water-closets, urinals, lavatory-basins or rain-baths, soap and towels being provided on every floor in apparent superfluity; (5) instituting a quasimilitary precision and regularity in the associated operations,

in dressing and undressing, in beginning and quitting work, in going to bed and rising, bugle-calls, so far as possible, supplementing personal orders, and the uniformed attendants acting rather as captains and guides than keepers or guards.

The hospital-idea, in its full development, comprehends covering the numerous elevations embraced within the extensive limits of the estate with independent groups of buildings. One for male patients is completed and in successful operation; ground has been broken for a second for females, which is to have only female nurses, attendants, cooks, and assistants, and female medical officers; a third for epileptic insane will follow. The group completed consists of four detached buildings, each occupying the side of an open space, or court, 200 feet square, connected by covered, but uninclosed, corridors.

Here, then, the problem has been solved, so far as human intelligence can do it, of the humane treatment of those unfortunates whose minds have gone adrift. Here, amid the placid surroundings of rural life, away from every exciting cause, with agreeable out-door occupation, the unbalanced mind may recover its equilibrium, or if that cannot be, if healthy living, wholesome food, and generous indulgence cannot effect a cure, the inveterate sufferer can, at least, live peacefully, decently, and, as far as the fantasies shaped by his seething brain will permit, contentedly.

The writer himself saw a patient admitted, an acute case, whose wrists still showed the marks of the handirons he had worn, and put to bed in an open ward and kept there by a watchful attendant, or as many as might be required, and who in three days had become tractable and responded to the usual clinical

questions of the physician; while another, who, as soon as he landed from the wagon that brought him, made a break to escape and thrice repeated his attempt the same day, before a week had passed was sitting quietly among the others and taking part in their work or play.

The superintendent has the rare satisfaction of having seen his plans and promises fulfilled to the very letter. Albert L. Gihon (*Philadelphia Medical Journal*, Nov. 5, '98).

[It is sincerely to be hoped that Dr. Rohé will have many imitators.—Ed.]

ABORTION, ACETANILID AS PREVENTIVE OF.

Acetanilid is a serviceable remedy in threatened premature explosion of the ovum. During the past few years the writer has used this drug in a considerable number of cases, and with decidedly encouraging results. In administering acetanilid, as with many other drugs, it might be well for those not accustomed to prescribing it to consider individual susceptibility and begin with small amounts, 5 to 7½ grains. But even where the dose has been large, 10 to 15 grains, and repeated at short intervals (one to two hours), the writer has observed no objectionable symptoms, certainly no alarming ones. It seems to possess a special relevance in such cases. Acetanilid has proved of no less benefit in habitual than in simple threatened miscarriages. In a few cases of women who bore histories of habitual loss of the ovum during previous pregnancies, even where the symptoms were alarming,—rhythmical uterine contractions, considerable hæmorrhage, and accompanied with more or less pallor and vomiting,—a state of calm was quickly reached under the administration of acetanilid in doses of 10 to 15 grains at intervals of one,

two, or more hours. Undesirable symptoms are minimized by administering acetanilid with alcohol, strong wine, or ether. Stephen Harnsberger (Jour. Amer. Med. Assoc., Oct. 22, '98).

ASTHMA AND ITS TREATMENT.

Cases of so-called nervous asthma have been infrequent in the writer's experience. Despite the existing nervous irritability, the asthmatic attack would rarely occur were there not other discernible causes that more advanced researches may be expected to reveal. Conditions of the blood are often ignored. Malarial toxæmia is frequently present, and yet overlooked, and it is wise to act in accord with its recognition. If there be sudden chill, followed by rise of temperature and sweating, and if at the time of the chill and previous to the giving of quinine internally careful microscopic examination of the blood be made, the plasmodium malaria should be found. For an asthmatic attack of probable malarial causation increasing doses of Fowler's solution of arsenic to its physiological effect advised; if the bowels are constipated and the liver inactive, Warburg's extract in 5-grain doses three or four times daily; if anæmia be present, quinine, iron, and arsenic in a suitably-formulated pill, such as the following: 1 grain of reduced iron, 2 grains of quinine sulphate, or preferably quinine hydrochlorate, and from $\frac{1}{60}$ to $\frac{1}{30}$ grain of arsenous acid three times daily after meals. If the attack be severe, antispasmodic remedies should be employed, and patients should be permitted to smoke and inhale from a *cigaret d'Espic*, *datura Tatula* (Savoy and Moore), or from simple niter-paper. As a last resort, an inhalation of a small quantity of chloroform or an hypoder-

mic of morphine and atropine may prove the only satisfactory help.

As to the reflex causes of asthma: When morbid conditions are found in the nose and throat, treatment will include operative interference to modify or remove these evidences of disease. In the presence of chronic gastric catarrh, brought on by errors of diet or alcoholic habits, frequent lavage of the stomach and a regulated regimen have afforded great relief in the asthmatic seizures. In the consideration of bronchitic cases of asthma, with some development of emphysema, questions arise that are clinically most difficult to decide. When the bronchitis is clearly defined and the secretion is slight, efforts should be directed to stimulation of the latter by appropriate means, and small repeated doses of ipecac, tartar emetic, *grindelia robusta*, ammonium chloride, or potassium iodide will be found very useful. When the bronchitis is also evident and attended with much bronchial secretion, belladonna or atropine must be combined in small or moderate doses with the drugs previously named, or they should be given with a little camphor and quinine in capsule or tablet, or, what is often preferable, alone, until their physiological effect is manifest. When the emphysema and bronchitis are clearly defined, and when the asthma is also pronounced, recourse must be had for temporary results to inhalation of the fumes of the antispasmodic cigarettes, the repeated use of oxygen, the administration of Hoffman's anodyne, alcohol, hot coffee, capsules of ether, or chloroform. When in connection with the previous conditions there is evident cardiac distension, resort must be had to the use of nitroglycerin or the nitrites, or to a soluble salt of caffeine (salicylate), either by the mouth or hypodermically. Occasion-

ally, blood-letting by bleeding from the arm, or the use of leeches, or wet cups to the chest or epigastrium, will afford more or less lasting relief. Usually, the relief is only temporary, and it is under these circumstances that particular care must be taken in the use of amyl-nitrite in inhalations, which seems to occasion further and more intense pulmonary congestion, and thus add an additional obstacle to a right heart already overtaxed. The climatic conditions that are best for subacute or chronic bronchitis are also those best suited to the bronchitis when complicated with asthma. Beverly Robinson (Philadelphia Med. Jour., Sept. 10, '98).

CARDIAC SYPHILIS.

The writer reports the results of a study of the hearts from a number of syphilitics not presenting any well-marked gross anatomical changes, with a view of ascertaining whether minute lesions could not be found sufficient to throw some light on the early development of luetic heart-lesions. These investigations show the vessels to be the primary point of origin of the disease, to which the interstitial myocarditis and subsequent degeneration and destruction of the muscular tissue are secondary. Such conditions may be firmly established before any functional disturbances of gross anatomical changes are evident. The rapidity is emphasized with which simple cellular infiltration is converted into fully-organized connective tissue. It is to be gathered clinically that when symptoms of this condition are evident the anatomical process has already attained some magnitude. An early correct diagnosis is imperative. Myocarditis, especially when occurring in younger patients, not clearly attributable to some other causation, should

always suggest syphilis. Active syphilitic lesions of other organs would confirm the diagnosis. There are numerous cases, especially in young people with so-called weak or irritable heart, associated with bradycardia, or more especially with tachycardia, and always with more or less arrhythmia, that are often the result of a syphilitic lesion, although there may be none of the graver physical signs of heart disease: no murmur, no dilatation of the ventricles. In all such cases, even if the diagnosis is doubtful, the patient should be given energetic antisymphilitic treatment. A case of syphilitic angina pectoris, the result of an acute dilatation from myocarditis, is reported, in which rapid relief followed antisymphilitic treatment. In the light of this study syphilis should be given full consideration as an etiological factor in heart disease. I. Adler (New York Med. Jour., Oct. 22, '98).

CURETTE, USE OF.

The promiscuous and indiscriminate use of the curette has been the cause of more deaths than probably any other factor in gynæcological surgery.

There is no operation in gynæcological surgery that requires more knowledge of pathological conditions and a greater experience in the treatment of the diseases of women.

In the writer's experience of thirty years, fifteen of which has been largely devoted to the treatment of diseases peculiar to women, he has found far more damage done in the use of this instrument than good. Forcible dilatation and curettement is the direct cause of more abdominal sections for the removal of appendages than any other. The instrument should only be used after examination by and consultation with the most experienced men.

In endometritis it may be at very long intervals, in the practice of a very busy gynecologist, of use. The writer has never had to curette a half dozen cases of endometritis.

In fungoid growths of the womb, small or large polypus, and also in the fungoid forms of supposed malignant disease,—where there is great loss of blood and the patient will not submit to extirpation,—the curette is of great benefit.

In absorption, miscarriage, or after labor the curette has no place except in the grossly-neglected cases where the woman has been allowed to go for weeks before the membranes and the placenta or parts of the placenta have been removed. All these cases should be treated promptly as soon as it is determined that the woman is aborting and the womb not able to throw off its contents. She should be thoroughly etherized, the hand introduced into the vagina, the finger or fingers into the womb, and every part of the membrane, placenta, and clot removed; the fingers should be used,—by sense of touch one can be absolutely sure that his operation is complete, while with curette one may scratch and scrape and wound portions of the endometrium, thus greatly aiding development of sepsis, and often the very part that should be removed is left.

In long-neglected cases the curette probably would require less violence than to attempt the removal of decomposing membranes and placenta by the fingers; but neither finger nor curette at any time without ether,—an operation without ether is rarely satisfactory. The curette is of no use in ulcerative cancer, except it be used in connection with the cautery, where it is found to be a great benefit.

In fibroid disease and myoma it is a

useless and at times a dangerous procedure. Mordecai Price (Penna. Med. Jour., Oct., '98).

ECLAMPSIA, PREVENTION OF.

Pregnant women who suffer from albuminuria and are, therefore, in danger of being attacked by eclampsia, are to be treated with complete rest and milk-diet, which treatment is to be continued fourteen days after the period, when the urine is quite normal again. Drejer (Norsk Mag. for Lægevidenskaben, p. 817, '98).

EXOPHTHALMIC GOITRE IN CHILDREN.

Treatment.—Excellent results obtained from the use of strontium bromide and iodide in the treatment of exophthalmic goitre in children. The thyroid swelling quickly diminished, and lost almost all pulsatile movement; the increased force and diminished tension of the pulse and the rapid action of the heart were made more nearly normal; all dyspnoea subsided; and the prominence of the eyeballs disappeared. Only thirty-six cases of exophthalmic goitre have been observed in children under 15 years of age. It is much commoner among females than among males. Gillespie (Brit. Med. Jour., Oct. 8, '98).

HEADACHE, CHRONIC.

Treatment.—One of the most powerful drugs for the prevention of sick and nervous headaches is water. The result of the drinking of large quantities of water daily in cases of life-long addiction to the headache habit is little short of marvelous. It flushes out the poisonous accumulations of constipation, washes away toxins and germs of diarrhoea, raises the blood-pressure by diluting and carrying off through the kidneys the irritants which contract the arteri-

oles, and cuts short rheumatism in the same way. In one or all of these ways it may prevent several kinds of headache.

The most common contra-indication to water given by the stomach is motor inefficiency of that organ with or without dilatation. Editorial (Cleveland Jour. of Med., Oct., '98).

HYPERTROPHIED PROSTATE IN THE AGED.

Treatment.—All cases of prostate hypertrophy should be given at least two weeks of palliative treatment, with rest in bed. This treatment should be regulated according to the conditions. If no relief is had from this line of treatment, a thorough and systematic examination should be made for vesicle calculi and polypi, as well as structural and malignant disease of the prostate and bladder. Cystitis, acute prostatitis, and prostatic abscess should always be borne in mind. The urine should be frequently examined. In cases of cystitis the ureters should be catheterized to determine the condition of the kidneys. If by digital examination per rectum the prostate is found to be enlarged, its approximate dimensions should be noted and urethral measurements taken. The patient should then be as well prepared as is possible for operation. Having decided upon operative interference, the operator alone must decide upon what operation he will perform in the case. Chloroform should be used, as it requires less time and is not so irritating to the kidneys. The operation should consume as little time as possible. Gonangiectomy or orchidectomy can be done quicker and with less shock than any other operation. Strict attention should be given to the after-treatment. The time for relief after operation is irregular. More immediate relief is given to cases of orchi-

dectomy, and the prostate softens and diminishes more rapidly in such cases where gonangiectomy is done. The kidneys should be carefully watched and supported after operation. Mental symptoms appeared in three of the writer's cases, two of which were due to renal disease. George W. Johnson (Medical News, October 29, '98).

INTRODUCTION OF STOMACH-TUBE WITH THE LEAST POSSIBLE EMBARRASSMENT OF THE PATIENT.

When a tube is first introduced into the stomach of a new patient it often will be for diagnostic purpose an hour after the usual test-breakfast of bread and water. Otherwise he should come with an empty stomach for the first time, if possible, unless there should be an urgent need for washing out the viscus without delay. Too much should not be said about the procedure beforehand, but what is said should be entirely of a reassuring character.

For first use is selected a small tube (not over a number 25 or 27, French), highly polished, of medium flexibility and with a conical end, having a small opening directly in the end, and at least one fenestrum on the side, about three-quarters of an inch above. A second fenestrum, half an inch higher, makes the tube less apt to block in performing lavage. Larger tubes will be needed when doing this in bad cases of gastric catarrh or of food-stagnation, especially if washed out at any time other than before breakfast.

As a lubricant for the tube warm water answers well.

Having secured the proper mental state, which should be as nearly as possible one of composure, devoid of excitement and apprehension, an apron, pref-

erably of thin rubber cloth and large enough to cover the body down to the knees, should be slipped around the patient outside the arms (so as to prevent the hands involuntary grabbing the tube at a critical moment) and be buttoned or tied behind the neck. Then he should be placed in a sitting position, in a good light, and the physician should sit down in a lower chair facing him. He should now be told that all he has to do is to open his mouth widely and breathe with unusual deepness; that the only reason, as a rule, why some persons are uncomfortable when they first take a tube is that their respiration is embarrassed as a result of a reflex irritation from the nerves of the throat, and that this can usually be avoided by breathing very deeply.

Then, taking hold of the tube as one would a pen, about six inches from the stomach end, it is passed carefully back over the center of the tongue into the pharynx. The operator's sight, and not a finger of the other hand, must be used to guide the end of the tube down through the middle of the pharynx into the œsophagus. The moment it reaches the pharynx the patient must be told to swallow, which will facilitate its entrance into the œsophagus, down which it will glide easily with the gentlest pushing, provided the patient continues breathing at least as deeply as normal and makes swallowing motions frequently. Even without the swallowing the tube can be easily and safely pushed on into the stomach if full inspirations are kept up.

It is unusual for patients to complain of any serious nausea as the result of the introduction of a tube; not more than one in twenty is excited to vomiting by it. The annoyance usually is from embarrassed respiration, the patient feeling

as though he could not breathe. The distance from the teeth to the bottom of the stomach varies in even healthy persons according to their height and peculiarities of build, and in conditions of displacement or dilatation of the organ. There are two ways of determining how far to introduce the instrument. The easier is to try it first at an inch or so above the mark, and if no fluid can be made to flow, it is to be gradually pushed further, even if it is required to pass it to a point six or eight inches beyond the mark. When liquid will flow in, it must return if the tube has been passed to just the right point and not beyond it. To pass it too far is as bad as not far enough, since the end may then curl up and the opening emerge above the level of the contents.

The contra-indications for the tube will be few when the operator has become expert so as to be able to introduce it without letting the patient become unduly excited. But it will be wisest never to resort to its use soon after a hæmorrhage from any internal organ, in cases of aneurism, in advanced heart or lung disease, or in conditions of great physical debility from any cause. Boardman Reed (*International Med. Mag.*, Oct., '98).

LUPUS ERYTHEMATOSUS.

Treatment.—The pathological histology of lupus is not so far established that it affords a valuable clue to the treatment. Though the epidermis is so exceedingly dry, the cutis shows dilations of the lymph-spaces and lymph-channels, œdema of the papillary body, with development of larger lymph-pools, and a peculiar moist canalization of the collagenous tissues. The whole condition, therefore, of the cutis being

œdematous, softened, and readily yielding, the writer advises the application of such remedies as are suited to reduce an inflamed patch into a pale, dry, and un-inflammatory condition of the skin; and to avoid carefully every remedy which might produce hyperæmia and œdema, even if otherwise apparently indicated. As to the internal treatment, he considers (1) those which have a favorable influence upon the vasomotor paresis of the face, as the alkalies, carbonate of ammonia, ichthyol-ammonia, salicylate of soda, ergot, and (2) those to which a specific action has been attributed, as phosphorus, salicin, tuberculin, iodide of starch, iodide of potassium, and arsenic. He has obtained only negative results with the iodides and arsenic; with tuberculin he has produced good effects, but no cure; with phosphorus and salicin he has had no experience. He has had favorable results from the use of carbonate of ammonia, ichthyol, and salicylate of soda in cases with a tendency to œdema and hyperæmia, but does not believe that any case has ever been cured by the use of these internal remedies without the aid of external means. Many cases, however, have certainly been cured by the sole use of external applications. The disease can often be cured by the proper use of remedies. Among the external remedies which he has seen to do most good is the following prescription:—

℞ Zinci ox.,
Boli rubræ, of each, 30 grains.
Boli albæ,
Magn. carbon., of each, 45 grains.
Amyli, 2 1/2 drachms.—M.

Another one which, long continued, he has found to be followed by a cure in a number of cases, without the help of any other remedy, is a combination of

soap collodion, as in the following formula:—

℞ Collodion, 5 drachms.

Sap. virid., 1/2 to 1 drachm.—M.

Unna (Jour. Cutan. and Genito-Urin. Dis., Oct., '98).

MEAT POISONING.

A new organism connected with the production of poisonous effects due to the ingestion of diseased meat has been discovered by the writer, who investigated an outbreak at Mansfield, in which sixty-three persons became ill after eating the meat of a cow which had been killed in consequence of a diagnosis of traumatic pericarditis. Only those who ate of the minced meat in a raw state or of the partly-cooked liver were affected; those who ate of the well-cooked meat escaped without exception. The symptoms were vomiting and diarrhœa, violent headache and abdominal pain, general muscular weakness, dizziness, and lassitude. The discharges were sometimes greenish, sometimes brownish, and always extremely offensive. With few exceptions the symptoms abated in from three to five days, and all recovered except one, and that a doubtful case in a child who was not known with certainty to have partaken, and whose symptoms might have been due to other causes.

The unconsumed meat when received for examination was already well advanced in decomposition and partly maggoty. All except one piece, which was faintly acid to litmus-paper, was alkaline in reaction. Cultures on agar and in bouillon were made from a piece taken from a part which was apparently not yet in process of decomposition. Inoculation of the bouillon cultures and of small bits of the meat into white mice produced fatal results, in some cases

from eighteen to twenty-eight hours and in others within three days. A guinea-pig which received a subcutaneous injection of the bouillon culture of the crushed meat died in forty-eight hours, having shown marked lassitude and profuse diarrhoea. Section showed, in all cases, enlargement of the spleen, which was bluish-red in color, strong injection of the small intestines, and marked redness of the medullary substance of the kidneys. Cover-glass preparations from the spleen showed fairly long and broad bacilli, and the same organisms were developed on agar from the meat itself. That the outbreak was due to an infection rather than to an intoxication was shown by the facts, first, that those who ate of the meat in a well-cooked condition escaped; and, second, that mice withstood injections of 1 centimetre of heated bouillon culture, but were killed by 0.2 cubic centimetres of the culture when it was not so treated. G. Wesenberg (*Zeit. f. Hyg. u. Infectionsk.*, Sept. 23, '98).

NASO-PHARYNGEAL ADENOIDS, DANGER OF OPERATIONS FROM, UNDER CHLOROFORM.

Case of death following immediately an operation for naso-pharyngeal adenoids under chloroform in a boy aged 6 years. The total amount of chloroform administered was about 1 fluidounce. The chloroform had been removed for two or three minutes at least before the fatal collapse, and death occurred without warning and with almost simultaneous failure of pulse and respiration.

In 1893 several brief communications appeared in the medical press of Great Britain calling attention to an alarming mortality in the adenoid operation and tonsillotomy performed under chloroform. In 1896 Dr. W. G. Holloway,

Registrar of the Central London Throat and Ear Hospital, tabulated 14 deaths under chloroform in nose and throat operations that had been reported in England up to April, 1895. Of these 14 deaths under chloroform 11 were in operations on the tonsils and naso-pharyngeal adenoids reported since 1892. At the meeting of the British Laryngological Association in 1897, in a discussion on the operation for post-nasal adenoids, Wyatt Wingrave and Dundas Grant deprecated the general use of chloroform in this operation and referred to the high mortality under its use.

Including the writer's own case, he is able to record 18 deaths following the administration of chloroform for the removal of naso-pharyngeal adenoids, hypertrophied tonsils, or both.

In 4 of these 18 cases death occurred before the operation was begun; in 3, from a few moments to an hour after the operation was completed.

Some observations have been made in recent years in Vienna by Paltauf, Kolisko, and others that throw some light upon the causes of the extraordinary mortality under chloroform in this operation. It has been found post-mortem in a number of cases of sudden death from slight causes that there was present hypertrophy of the lymphoid tissue throughout the body, including the tonsils, the lymphoid structures at the root of the tongue, and the naso-pharyngeal adenoids. The thymus gland was persistent and often very large, and the intestinal follicles were markedly hypertrophied. In addition there were frequently present a dilated heart, not dependent on valvular lesions, and at times a narrowing of the aorta with small size of the peripheral vessels. This condition, which has been called *habitus*

lymphaticus, was found among others in a number of cases of death during chloroform administration. People so constituted seem to have little power of resistance to comparatively slight shocks. Nevertheless, they may be of robust physique, though usually there are evidences of developmental retardation. Brickner, commenting on Kolisko's report of the *habitus lymphaticus*, writes: "It would seem, therefore, that in anæsthetizing patients of the lymphatic temperament, or in whom lymphatic enlargement or adenoid vegetations exist, chloroform should be rigidly excluded." Both by statistical data and pathological induction this opinion is confirmed, and the conclusion seems inevitable that chloroform anæsthesia for the removal of hypertrophied pharyngeal and faucial adenoid tissue is attended by grave risks, and that chloroform should be used for this purpose only under peculiar circumstances and after careful consideration.

If general anæsthesia is desired there is no valid reason to insist upon the use of chloroform, since the indications for the brief anæsthesia usually required for the adenoid operation are met in the practice of many surgeons by nitrous oxide, or ethyl-bromide, and, where a longer period of anæsthesia is desired than these minor anæsthetics afford, we can use ether, despite its recognized disadvantages as an anæsthetic in operations upon the mouth or pharynx. Frank Whitehill Hinkel (New York Med. Jour., Oct. 29, '98).

PROGRESSIVE CIRRHOSIS OF THE LIVER, BACTERIOLOGY OF.

By numerous carefully-conducted examinations the writer proves (1) that, in at least a very large number of well-marked cases of progressive cirrhosis in man, there is to be found largely within

the liver-cells, also in the lymph-spaces in the newly-formed connective tissue, a peculiar and very minute form of micro-organism present, on staining to the proper extent, as a diplococcus surrounded by a faint halo, or, when stained deeply, being a rather obscure bacterium, which may be easily mistaken for stained deposits within the cells.

2. That in the infective cirrhosis of cattle a very similar micro-organism is recognizable, present in like positions within the tissues and showing similar appearances when stained.

3. That from at least thirty cattle affected with this disease the writer has been able to isolate the micro-organism from the liver, bile, abdominal lymph-glands, and in some cases from the various organs of the body.

4. That the micro-organism isolated is a polymorphous micro-organism, appearing as a small diplococcus when grown in broth, tending to assume a distinctly bacillary form when grown for a few hours on other media, or in broth for a longer period.

5. That this micro-organism is pathogenic for the animals of the laboratory; and that in them it is to be recognized within the hepatic cells as in other regions.

6. That from a case of distinct atrophic cirrhosis in the human being he has been able to isolate from various organs of the body a similar micro-organism, which, grown in broth, has a diplococcus form; grown upon agar, is present as a short or longer bacillus according to the age of growth.

That the micro-organism only causes cirrhosis the writer does not believe; indeed, one may find that it is the cause of more than one disturbance in the liver and in other organs. The micro-organism shows itself capable of existing in

several regions of the body; in fact, of setting up what bacteriologically we regard as a septicæmic condition. J. G. Adami (*Dominion Med. Monthly and Ontario Med. Jour.*, Oct., '98).

RINGWORM OF THE SCALP.

Great measure of success obtained in the treatment of ringworm of the scalp with a silver solution. After the head is entirely shaved each patch is scraped with a Volkmann spoon, and a solution of silver nitrate (1 drachm to the ounce) is applied with a swab-stick. This process should be repeated twice a week, the underlying parasitic growth being scraped off on each occasion before repainting with the solution. Lyle (*Lancet*, Oct. 8, '98).

STERILIZATION OF CATGUT BY DRY HEAT.

The following is the method of sterilizing catgut adopted by Professor Tscherning, of Copenhagen: The ordinary commercial catgut as it comes from the manufacturers is placed on trays in the sterilizer between sheets of cellulose-paper. It is then heated for six hours consecutively, for the first hour at a temperature of 150° F., for the second at 280° F. It is then removed, wrapped up, and closely sealed in an envelope of cellulose-paper, which is again placed in another envelope of slightly-larger size and similarly closed. The catgut, now incased within two firmly-sealed envelopes, is a second time placed in the sterilizer and subjected for another two hours to a temperature of 280° F. The envelopes are placed in racks in the sterilizer and contain various sizes of catgut labeled on the outside, some of a size for ligaturing the pedicle in ovariectomy, others for fine buried sutures or other purposes where absorption is desired

within a short period. These envelopes can be taken from the sterilizer and placed in the pocket or bag of the operator and need not be opened until the time of operation. Thus they are very handy and portable. It is to be remembered that catgut ligatures prepared by any of the wet methods become, if kept in spirit for any length of time, hard, and need more time for absorption. If, on the other hand, they are kept in an antiseptic aqueous solution, they tend to become soft and lax, whereas if kept in any preparation of glycerin they are somewhat difficult to manipulate, owing to their extreme slipperiness. The dry catgut is without these disadvantages. J. H. Dauber (*Lancet*, Oct. 22, '98).

STRYCHNINE: IS ITS CONTINUAL USE UNWISE?

No one who has employed strychnine for a long time will venture to deny that its action is not sometimes accompanied by some untoward effect, but after having given it in many thousands of cases during the last ten years the writer confidently asserts that he has never witnessed any serious danger from it; that it is the most easily controlled of all active agents in the materia medica, and if carefully administered its unfavorable influence can be entirely thwarted. The plan pursued by the writer in giving strychnine is as follows: As a rule, 1 grain is divided into thirty or thirty-two doses, and one dose administered four times a day. This lasts one week, and the following week 1 1/4 grains are divided and given in the same manner. After this, instead of increasing the drug 1/4 grain, as in the first week, it is augmented only 1/8 grain every week until the line of toleration of the drug is approached. This is most often shown by slight twitching in a leg, by a tendency

to stiffness of the lower jaw, or by a fullness in or drawing of the neck. After this a somewhat smaller dose is given for two weeks or a month, and then an effort is made to push it to near a point of physiological toleration; or a retreat is made to a point near the initial dose, and this is gradually increased until the line of toleration is again in sight. The dose is diminished and the previous steps are repeated again and again. It will be found, however, that the dose which develops the line of toleration at one time will not, for a while at least, do this subsequently, and hence in the course of six months the writer has been able to give $\frac{1}{8}$, $\frac{1}{6}$, or $\frac{1}{5}$ grain four times a day, and with the best possible results. When strychnine is indicated in chronic diseases it must be given for effect, and in order to get its best possible effect it must be administered in large and continued doses,—small doses being worse than useless for this purpose.

In regard to the assertion that strychnine is capable of producing an irritant fever, the writer believes this to be one of the possibilities of its action, but it is not a "frequent" occurrence.

Serviceable as this agent is in meeting the acute crises of many diseases, its greatest value lies not so much in its power of acting as a temporary expedient as it does in being a permanent stimulant to the flesh- and vigor- making functions of the body. Thomas J. Mays (New York Med. Jour., Oct. 8, '98).

TUBERCULOSIS, EXANTHEMATA OF.

Under the heading of the exanthemata of tuberculosis are included those cutaneous eruptions which, although the tubercle bacillus has not been found in connection with them, are so frequently found on persons who sooner or later are shown to be infected with tuberculosis,

TUBERCULOSIS, EXANTHEMATA OF.

that we are justified, indeed forced, to regard them as connected with the tuberculosis. It is probable that we here have to do with the action of the toxins produced by the bacillus. In this case the known forms of cutaneous tuberculosis as exemplified by lupus vulgaris, tuberculosis verrucosa cutis, tuberculosis cutis miliaris, and scrofuloderma are not included.

Among the tuberculous exanthemata are (1) the primary lesion, consisting of an erythematous spot or papule which frequently arises from a deeper-seated nodule. The erythematous macule or papule often shows a small vesicular-like formation in the centre. At this stage the efflorescence either undergoes involution or else a small necrotic suppurating focus forms in the centre. The result of the latter evolution is a small, sharply-defined scar. These small, white scars, in some instances no larger than a pin's head, in others considerably larger, lend a characteristic appearance to the affection. The favorite seats of the eruption are the ulnar side of the forearms and the wrists, hands, and ears, although it can affect any portion of the body. The efflorescences are sometimes grouped, and in this way offer a resemblance to lupus erythematosus.

2. Lichen scrofulosorum. This form certainly belongs in the class of tuberculous exanthemata. In spite of the local reaction about the lichen papules that has been observed by Neisser and Jadassohn after the injection of tuberculin, and in spite of the presence of giant-cells in the infiltration, this form cannot be considered a true tuberculosis of the skin. In only one case has a bacillus been found (a single one), and all experimental inoculations on animals have been negative. One case has been reported where an extensive eruption of

grouped lichen papules, precisely similar to lichen scrofulosorum, appeared in a tuberculous subject after tuberculin had been injected.

3. *Eczema scrofulosorum*. The form of eczema that occurs especially in older children or in young adults, and that is allied to lichen scrofulosorum appearing often in persons who have at some time been affected by the latter form of eruption. It takes the form of more or less infiltrated reddish spots, that are often simply scaly, but may be oozing with uncovered crusts. Circinate and gyrate figures are often formed. They are often accompanied by small papules about the hairs that resemble the lesions of lichen scrofulosorum. The favorite seats of the eruption are the thorax, the extensor surface of the upper arms, and the extensor surface of the lower extremities. The scalp is often affected also, where the appearances are those of a pityriasis capitis or an impetiginous eczema, which is readily healed. This form of eczema is usually symmetrical in its distribution, and often recurs.

4. *Lupus erythematosus discoides*. The writer, who regards lupus erythematosus as dependent upon tuberculosis, has endeavored to explain its relationship by the action of the toxins of the tubercle bacillus upon certain nerve-centres of the skin, especially the vaso-motor-trophic centres. He produces the statistics of thirty-six patients affected with the discoid form of lupus erythematosus, and asserts that two-thirds of these showed signs of tuberculosis. Another argument in favor of the dependence of the discoid form of lupus erythematosus upon tuberculosis is that this form may be combined and mingled clinically with the disseminated form. He considers that age and sex play a part in determining which of the different varieties of

tuberculous exanthem is produced. *Eczema scrofulosorum* appears chiefly in children, and lichen scrofulosorum in children and young adults. After this comes his disseminated form of lupus erythematosus (folliculitis), which appears somewhat later in life, while the discoid form is found at a still later epoch. Occasionally, and as a rarity, the latter form may appear in children. As regards sex, all forms of lupus erythematosus are much more frequent in women than in men. Lichen scrofulosorum and perhaps eczema scrofulosorum are, on the contrary, more often seen in boys and young men. If the proposition is accepted, that a relationship exists between tuberculosis and the eruptions just considered, it need not be assumed that this is a direct one. It may be supposed that the tuberculosis is only a predisposing agent which prepares the soil for another infection, although this seems unnecessary in the presence of an existing tuberculosis. In conclusion, several other affections are mentioned which may have some claim to be included among the tuberculous exanthemata: lupus pernio, erythema induratum, gangrena cachectica infantum, acne cachecticorum, etc. These exanthemata are regarded as having much importance as forerunners of a tuberculosis that will later assert itself. Boeck (*Archiv f. Derm. u. Syph.*, '98; *Boston Med. and Surg. Jour.*, Oct. 27, '98).

WHOOPIING-COUGH, EARLY DIAGNOSIS IN.

An early diagnosis in whooping-cough can be made at once by a bacteriological examination of the nasal secretions ("primary place of infection"). The secretions of the normal mucous membranes of the nose contain very few bacteria, while in whooping-cough we

find a large mass of bacteria of one kind: a natural pure culture of "polbacteria" (Czaplewski and Hensel). This bacterium, when full grown, is two to three times as long as broad, is rounded and somewhat thickened at its ends, and is divided in the middle. Nearly all of them are surrounded by a capsule. This capsule originates in the animal body by inhibition of the external layers of the cell-membrane (by plasmolysis), and is lost by artificial cultivation (perhaps by peptonization).

The Czaplewski method of staining this bacterium consists (a) in the action of 1-per-cent. acetic-acid solution; (b) by staining with a heated 10-per-cent. carbolic-acid-glycerin-fuchsin solution.

This latter solution consists of 1 part of fuchsin, 5 parts of liquefied carbolic

acid, 50 parts of glycerin, and 100 parts of water.

The Knaak contrast stain consists in staining with methylene-blue in a weak alkaline solution. This stain is then decolorized by 2-per-cent. freshly-prepared argonin solution, which reduces the methylene-blue in the cells and their nuclei quicker than in the bacteria. To prevent a reoxidation of the leuco-methylene-blue by atmospheric oxygen, the specimen is washed with a concentrated solution of cream of tartar. As contrast stain one can use a very diluted fuchsin solution (1 part of concentrated alcoholic solution to 40 parts of water).

The treatment should certainly be principally a local one. Henry Lewis Wagner (New York Med. Jour., Oct. 8, '98).

New Books Received.

The editor begs to acknowledge, with thanks, the following books:—

Practical Urinalysis and Urinary Diagnosis. A Manual for the Use of Physicians, Surgeons, and Students. By Charles W. Purdy, M.D., LL.D. Fourth Revised Edition. With Numerous Illustrations, including Photo-engravings and Colored Plates. In one Crown-Octavo Volume; 865 pages; Bound in Extra Cloth. The F. A. Davis Co., Publishers, 1914-16 Cherry Street, Philadelphia; 117 W. Forty-second St., New York City; 9 Lakeside Building, 218-220 S. Clark St., Chicago, Ill.—A Primer of Psychology and Mental Disease. For Use in Training-schools for Attendants and Nurses and in Medical Classes. By Charles B. Burr, M.D. Second Edition, Thoroughly Revised. Extra Cloth. The F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia; 117 W. Forty-second St., New York City; 9 Lakeside Building, 218-220 S. Clark St., Chicago, Ill.—Special Report on the Beet-sugar Industry in the United States. United States Department of Agriculture, Washington, D. C., 1897.—The Office Treatment of Hemorrhoids, Fistula, etc., Without Operation, together with Remarks on the Relation of Diseases of the Rectum to Other Diseases in Both Sexes, but Especially in Women, and the Abuse of the Operation of Colostomy. By Charles B. Kelsey, A.M., M.D., New York. E. R. Pelton, 19 E. Sixteenth St., New York City, Publisher, 1898.

Monographs Received.

The editor begs to acknowledge, with thanks, the following monographs:—

Faulty Metabolism, Nutrition, and Growth. By W. A. Walker, M.D., New York, 1898.—Heredity. By R. A. Walker, M.D., West Monterey, Pa., 1898.—Diet for Consumptives. By Reynold W. Wilcox, M.D., New York, 1898.—A

Preliminary Report on a Method of Overcoming High Resistance in Crookes Tubes: a Possible Step toward Maximum Radiance. By William W. Graves, M.D., St. Louis, Mo., 1898.—Nosophen and Antinosine in the Treatment of Genito-Urinary and Venereal Diseases, with Report of Cases. By C. A. Dundore, M.D., Philadelphia, 1898.—Mycosis Fungoides; with Reference to a Case. By John V. Shoemaker, M.D., LL.D., Philadelphia, 1898.—Acute Gonorrhœa. By John V. Shoemaker, M.D., LL.D., Philadelphia, 1897.—A new and successful Treatment of Certain Forms of Headache. By E. Larue Vansant, M.D., Philadelphia, 1898.—Hospitals and Sanatoria for Consumption Abroad. By Edward O. Otis, M.D., Boston, 1898.—Mutual Relations of the Railway-surgeon and the Neurologist. By J. T. Eskridge, M.D., Denver, 1898.—Injuries from "Live" Electric-Light and Trolley Wires. By J. J. Brownson, M.D., Dubuque, Iowa, 1898.—The use of Quinine in Malarial Hæmoglobinuria. By Albert Woldert, Ph.G., M.D., Philadelphia, 1898.—Normal Salt Solution in Medicine and Surgery. By Palmer Findley, M.D., Chicago, 1898.—Roentgen-Ray diagnosis of Pulmonary Tuberculosis and other Diseases of the Lungs and Heart. By J. Edward Stubbett, M.D., Liberty, N. Y., 1898.—Appendicitis. By G. G. Eitel, M.D., Minneapolis, 1897.—A Case of Club-feet. By G. G. Eitel, M.D., Minneapolis, 1897.—State Hospitals Bulletin: A Quarterly Report of Clinical and Pathological Work in the State Hospitals (for the Insane), and their Pathological Institute. Utica, N. Y., 1897.—Reports of Friends' Asylum for the Insane. Frankford, Philadelphia, 1898.—Experiment-Station Works—iv and v. U. S. Department of Agriculture, Washington, D. C., 1898.—Some Essentials in Beef-production. By Charles F. Curtiss, Washington, D. C., U. S. Department of Agriculture, 1898.—Section of Foreign Markets. By Frank H. Hitchcock, Department of Agriculture, Washington, D. C., 1897.—Milk As Food. U. S. Department of Agriculture, Washington, D. C., 1898.—Historical Sketch of the U. S. Department of Agriculture: its Object and Present Organization. Compiled by Charles H. Greathouse, Washington, D. C., 1898.—A Report upon the Grasses and Forage Plants of Central Texas. By H. L. Bentley, Washington, D. C., 1898.—Bureau of Animal Industry. By D. E. Salmon, Department of Agriculture, Washington, D. C., 1897.—Forestry Conditions and Interests of Wisconsin. By Filibert Roth, Washington, D. C. Department of Agriculture, 1898.—The Fertilizer Industry: Review of Statistics of Production and Consumption, with Abstracts of State Laws for Analysis and Sale. Compiled under Direction of John Hyde, U. S. Department of Agriculture, Washington, D. C., 1898.—Chicory Growing: As an addition to the Resources of the American Farmer. By Maurice G. Kains. U. S. Department of Agriculture, Washington, D. C., 1898.—Contributo Allo Studio Dei Corpi Estranei, Della Cassa del Timpano. By Prof. Vittorio Grazzi, Firenze, 1897.—The Surgery of the Gall-bladder and its Ducts. By H. O. Walker, M.D., Detroit, 1898.—A Contribution to our Knowledge of the Etiology of Inflammations of the Accessory Sinuses of the Nose. By W. T. Howard, Jr., M.D., and J. M. Ingersoll, M.D., Cleveland, O., 1898.—Case of Removal of the Entire Stomach for Carcinoma; Successful Esophago-duodenostomy; Recovery. By C. B. Brigham, M.D., San Francisco, 1898.—A New and Successful Treatment of Certain Forms of Headache. By E. Larue Vansant, M.D., Philadelphia, 1898.—Tonic and Spasmodic Intestinal Contractions, with Report of Cases. By X. O. Werder, M.D., Pittsburgh, 1897.—Two Interesting Cases of Intestinal Resection with End-to-End Anastomosis by Means of the Murphy Button, with Recovery. By X. O. Werder, M.D., Pittsburgh, 1897.—Note sur eighteen cas d'Accidents Provoqués par une Teinture pour Cheveux à Base de Chlorhydrate de Paraphénylène-diamine. Par M. H. Cathelineau, 1898.—Du Classement des Voix. Dr. Joal, du Mont-Dore, 1898.—Liming of Sails. By H. J. Wheeler, Ph.D. U. S. Department of Agriculture, 1898.—Increasing the Durability of Timber. U. S. Department of Agriculture, 1898.—Division of Publications. By George William Hill, U. S. Department of Agriculture, 1897.

- Joret, 172.
 Jousset, 448.
 Jullien, 383.
 Justus, 384.

 Kachanovsky, 315.
 Kallenberger, 238.
 Kanthack, 207.
 Kartulis, 202, 213.
 Kassowitz, 259.
 Keller, 267, 420, 460.
 Kellogg, G. M., 157.
 Kendall, 319.
 Kerley, 272, 281.
 Kerr, 132.
 Ketcher, 68.
 Kevin, 275.
 Keyes, 388.
 Khory, 178.
 Kiernan, James G., 465.
 King, 77, 104.
 Kinnear, 191.
 Kirikow, 462.
 Kirt, 179, 377.
 Kistler, 149.
 Kitasato, 261.
 Kittel, 328.
 Kjeer, 155.
 Klebs, 239.
 Klebs, Edwin, 334.
 Klein, 96, 136.
 Knapp, 419.
 Knepp, M. J., 21.
 Knight, F. I., 45.
 Koerfer, 190.
 Kohn, H., 365.
 Kolisko, P., 433.
 Konig, 347.
 Kontrebinsky, 145.
 Koplik, 272, 284.
 Kotschorowsky, 213.
 Krafft-Ebing, 123, 126, 129.
 Kramer, 146.
 Krause, 448.
 Krauss, 380, 449.
 Krim, 236.
 Kuh, E. J., 25, 29.
 Kuhn, 468.
 Kummell, 297.
 Kuttner, 413.
 Kyle, 151.

 Labbé, 305.
 Labit, 269.
 Labusquière, 423.
 Lacourt, 114.
 Lacedra, 230.
 Lacroix, 119.
 Lalesque, 182.
 Lambert, 109, 188, 262.
 Lamprey, 180.
 Lancaster, 279.
 Landerer, 37.
 Lang, E., 382.
 Langdon, 36.
 Lange, 178.
 Lange, F., 406.
 Langstaff, 133.
 Lapersonne, 447.

 Lasnet, 8.
 Latouche, 195.
 Laurie, 136.
 Lavagna, 269.
 Laveran, 13, 187.
 Law, 135.
 Lawrie, E., 178.
 Leahy, 211.
 Lebaudy, 184.
 Le Dentu, 31.
 Lee, Elmer, 61, 95.
 Lefwich, R. W., 455.
 Legay, 109, 122.
 Legraine, 376.
 Leistikow, 197.
 Lejars, 300.
 Lemoine, 22, 63, 138, 157, 213, 276, 349.
 Lerchine, M. L. L., 46.
 Leriche, 187.
 Leroux, 125.
 Lesage, 243.
 Leuf, A. H. P., 311, 322.
 Leute, 415.
 Levacher, 448.
 Levi, 184.
 Levison, F., 330.
 Levy, 92.
 Lewin, 53.
 Lewis, 76, 128, 190, 418.
 Lewis, H. Edwin, 418.
 Leyden, 11.
 Lichtwitz, 234.
 Liégeois, 294.
 Liekasiewicz, 382.
 Lilienthal, 392.
 Limbeck, 364.
 Lind, 182.
 Lindsay, 137.
 Lindt, 178.
 Linnæus, 217.
 Little, 185.
 Locke, 210, 211, 212, 313.
 Loin, 242.
 Lopez, 259.
 Lorenzin, 76.
 Loudon, 125.
 Lowe, 455.
 Luff, 328.
 Luff, A. B., 325.
 Lupo, P., 87.
 Lycett, 132.
 Lyle, 435.
 Lyman, 373, 414.
 Lyon, 85.

 Mabbott, J. Milton, 397.
 Maberly, 213.
 Macalister, J. D. L., 35, 454.
 MacCallum, 14.
 Mackenzie, 231.
 Mackenzie, H., 294.
 MacLagan, 178.
 Maestro, 262.
 Magnus-Levy, 443.
 Maguire, J. C., 320.
 Maisch, 254.
 Makuen, 97.
 Manges, Morris, 467.

 Manson, 13, 14, 34, 166.
 Manton, 82.
 Maragliano, 153.
 Marais, 205.
 Marc, 181.
 Marchant, 152, 299, 449.
 Marfan, 123, 127, 129, 306.
 Marianesco, 261.
 Marie, 261.
 Marino, 13.
 Marlin, Sir S., 213.
 Marquie, 232.
 Marshall, 378.
 Marshall, C. F., 378, 383.
 Martin, 131, 153, 189, 190.
 Martin, Ronald, 172.
 Martindale, 208.
 Massalongo, 124.
 Massey, G. Betton, 46.
 Mathysen, 184.
 Mattison, 211.
 Maud, A., 295.
 Maurage, 174.
 Mauray, 265.
 Mayo, J. Thomas, 436.
 Mays, T. J., 274.
 McClennan, 348.
 McCormick, H. G., 68.
 McCoy, R. Y., 197.
 McDonald, 265.
 McGiffin, 192.
 McGrigor, 187.
 McInnes, 199.
 McKeown, W., 78.
 McLean, 111, 208.
 McPhedran, Alexander, 58.
 Meek, J. W., 18, 20.
 Mei, 124.
 Melchior, 249.
 Melchior, M., 74.
 Meli, 183.
 Melier, 334.
 Mendy, 31.
 Merrill, W. H., 290.
 Metcalf, 146.
 Meunier, 349.
 Meyer, 123.
 Meyers, 138.
 Michael, 310.
 Michaux, 31.
 Mikhnevitch, 258.
 Mikulicz, J., 416.
 Miles, 86, 196.
 Millard, 142.
 Mitchell, J. F., 74.
 Mohamed, 141.
 Moizard, 277.
 Moncorvo, 303, 304.
 Mondini, Cesare, 471.
 Monod, 69.
 Monroe, 121.
 Montgomery, D. W., 375.
 Moore, J. W., 92, 178.
 Moore, W., 36.
 Moores, W., 376.
 Morris, 221.
 Morrison, 73.
 Morrison, J. E., 466.
 Morse, 108, 414.

- Morse, E. L., 367.
 Morse, J. L., 362.
 Morse, S. F. B., 157.
 Mortimer, 206.
 Morton, 174.
 Moseley, W. E., 347.
 Mosetig-Moorhof, 349.
 Mosler, 124.
 Mott, Alexander, 157.
 Mouat, 216.
 Mueller, A., 229.
 Muir, 93.
 Müller, 178, 235.
 Murray, R. D., 333, 337, 339.
 Murrell, William, 77, 176, 208.
 Murri, 19.
 Musser, J. H., 42, 43.
 Mya, 186.
 Mygind, Holger, 96.

 Naegeli, 46.
 Naegeli-Akerblom, 149.
 Napier, 123.
 Nash, 185.
 Nason, 150.
 Neal, 220.
 Nebelthau, 35.
 Nelson, 290.
 Nepveu, 148.
 Neville, 258.
 Nevins, 210.
 Newburger, T. H., 73.
 Newman, 48.
 Newman, R., 331.
 Newton, 185.
 Nicolaier, 252.
 Nicoll, 473.
 Niemeyer, 206, 207.
 Niessen, 379.
 Noble, 250.
 Nocard, 262.
 Nolda, 198.
 Nonne, 155, 444.
 Noritsky, Sila, 196.
 Norman, Seaton, 342.
 Norton, Rupert, 13.
 Northrup, 301.
 Northrup, W. P., 454.
 Notecourt, 324.

 O'Connor, 217.
 O'Dwyer, 191.
 Olio, 186.
 Oliver, 327.
 Olivetti, 415.
 Olney, Max, 62.
 Openchowski, 236.
 Oppenheim, 448.
 Oppenheimer, Seymour, 476.
 Ord, W. B., 470.
 Orme, W. B., 6.
 Ortega, 259.
 O'Shaughnessy, 176, 179, 185, 214.
 Osler, William, 16, 17, 49, 50, 65, 69, 70, 93, 94, 124, 204, 209, 214, 238, 272, 407, 448.
 Ott, Isaac, 37, 64.
 Otte, 316.
 Ottinger, 220, 271.
 Otto, 312.
 Oudin, 305.
 Overend, 127.
 Overend, Walker, 44.
 Owen, 297.

 Packard, 190.
 Padier, 185.
 Page, 151.
 Paget, O. F., 67, 68.
 Palmer, 149.
 Pancoast, J., 157.
 Papazoglou, 196.
 Park, 114.
 Parkes, 216.
 Parry, 346.
 Parsons, 129.
 Paterson, A. G., 50.
 Patterson, 215.
 Pauchet, 318.
 Péan, 298.
 Pearce, 209.
 Pepper, William, 372.
 Percival, 273.
 Pereira, 172, 176, 206.
 Pestalozza, 305.
 Peter, 92.
 Peterson, F., 357.
 Pezzoli, 312.
 Pfaff, 248, 254.
 Philadelphia Medical Journal, Editorial, 472.
 Phillips, 189.
 Phillips, Leslie, 32.
 Phillips, Sidney, 377.
 Phisalix, 230.
 Pick, Ludwig, 414.
 Piddington, 181.
 Pilloy, 212.
 Pincus, 245.
 Piorry, 185.
 Piso, 205.
 Pitfield, 261.
 Playfair, 206.
 Poggi, 198.
 Pollmann, L., 444.
 Polozker, I. L., 476.
 Pompoukis, 186.
 Poncet, 300.
 Pontoppidan, 53, 78.
 Popoff, 180.
 Poredi, 225.
 Porenski, 186.
 Porteous, J. Lindsey, 51.
 Porter, 232.
 Porter, C. B., 56.
 Potter, 241.
 Pouquinvillie, 175.
 Power, d'Arcy, 195.
 Pozzi, 263, 264, 265.
 Price, Mordecai, 429.
 Priestley, 124.
 Pringle, 206.
 Pritchard, Urban, 464.
 Prout, 217.
 Pruden, 67.
 Pruitt, 181.

 Prutz, 112.
 Public Health Journal, 220.
 Pujador, 144.
 Pujol, G., 331.
 Purslow, 132.

 Quénu, 299.
 Quincke, 312.
 Quirogne, 186.

 Rabinschek, 305.
 Rachford, 155.
 Ragland, 215.
 Ramsay, 48.
 Ramson, 328.
 Ransom, W. B., 57.
 Rappapart, 143.
 Réclus, 82, 265.
 Reed, A. Graham, 368.
 Reed, Boardman, 375, 431, 468.
 Reed, R. Harvey, 420.
 Register, E. C., 17.
 Reichert, 228.
 Reid, R. A., 322.
 Reid, S. T., 49.
 Renai, 127.
 Rendu, 42.
 Reyerson, 122.
 Rhoads, T. L., 34.
 Rhymer, 11.
 Rice, 346.
 Riche, 296.
 Richet, 279.
 Riegel, 467.
 Riehl, 327.
 Riel, 186.
 Ringer, 173, 175, 178, 208, 211, 212, 214.
 Riseman, 126.
 Ritchie, 93.
 Ritter, 303.
 Riva, A., 58.
 Robb, H., 423.
 Roberts, 176.
 Roberts, J. B., 56.
 Robertson, W. G. A., 397.
 Robin, 150, 287.
 Robin, A., 412, 441.
 Robinson, 245, 256, 257.
 Robinson, Beverly, 428.
 Robinson, Mayo, 75.
 Robinson, Samuel W., 79.
 Robson, Mayo, 410.
 Rochester, Delancy, 476.
 Rode, E., 331.
 Rodman, 129.
 Roger, M., 143.
 Rohé, G. H., 254, 255, 425.
 Romme, 260.
 Rosenbaum, S. M., 311.
 Rosenheim, 247, 286.
 Rosin, 348.
 Roskam, 303, 304.
 Ross, F. W. Forbes, 405.
 Ross, Ronald, 13, 14.
 Rossbach, 213.
 Rosse, I. C., 393.
 Rosseau, 318.

- Rotch, 136, 138, 139, 140, 144, 282.
 Roth, 173, 177, 207, 214, 448.
 Rottger, 186.
 Roullies, 123.
 Routh, 131.
 Roux, G., 229.
 Rovsing, 250.
 Rowland, 269.
 Roxburgh, 185.
 Royle, 185.
 Rubel, 95.
 Rubeska, 260.
 Rubino, 376.
 Ruchi, 173.
 Ruffe, 10.
 Ruge, 422.
 Rugh, J. T., 370.
 Rumbold, 117.
 Rumpf, 43.

 Saenger, 85, 156.
 Sainsbury, 208, 212.
 Sajous, C. E. de M., 25, 86, 171.
 Sallden, 230.
 Sambon, 189.
 Samways, D. W. S., 424.
 Sanarelli, 335, 338.
 Sanger, 110.
 Sangree, 280.
 Sanson, 124.
 Santori, F. S., 17.
 Sarto, 421.
 Sass, 98.
 Sawyer, 177.
 Schenck, 311.
 Schieff, E., 394.
 Schirlzern, 44.
 Schlesinger, 450.
 Schoengut, 213.
 Schuller, 65.
 Schultz, 155.
 Schulz, 297.
 Schuster, 270.
 Schwalbe, Karl, 25.
 Seabrooke, 370.
 Seck, 156.
 Seitz, 136, 141, 144.
 Senn, 25.
 Shapter, 187.
 Shattock, 119.
 Shattuck, F., 99.
 Shaw, 275, 278.
 Sheffield, 122.
 Shoemaker, 425.
 Shrady, 250.
 Sickel, 191.
 Simmonds, 113.
 Simon, 122, 129.
 Simons, E.M., 79.
 Simpson, Alex., 321, 323.
 Singer, 59.
 Sinkler, 122, 128, 276.
 Siredy, 63.
 Skene, A. J. C., 351.
 Skillern, 442.
 Slawy, 355.
 Sloane, 205.
 Smart, 164.

 Smellie, 278.
 Smith, 135, 181, 236.
 Smith, Andrew H., 93, 96.
 Smith, E. F., 345.
 Smith, S. K., 165.
 Smith, W.W., 211.
 Smyth, 191.
 Snow, 233.
 Sobernheim, 33.
 Sokoloff, 62.
 Solberg, 96.
 Solis-Cohen, 297, 369.
 Solis-Cohen, S., 65.
 Solomann, 75.
 Solon, Martin, 175.
 Souter, 196.
 Souterian, 183.
 Southworth, 246.
 Soxhlet, 284.
 Spalding, J. A., 295.
 Sparr, 185.
 Spencer, G. W., 315.
 Spengler, Carl, 36.
 Spiller, 128.
 Spirak, C. D., 46.
 Sprague, E. K., 338.
 Squire, 317.
 Stamm, C., 463.
 Stanley, 126.
 Stark, 461.
 Steiner, 60, 111.
 Sternhardt, 292.
 Stengel, Alfred, 372.
 Sternberg, Surgeon-General, 336.
 Stevens, 210, 214.
 Stevin, 179.
 Stewart, 179, 181.
 Stiles, 354.
 Still, 466.
 Still, G. F., 447.
 Stillé, 207, 210.
 Stillson, 116.
 Stockman, Ralph, 24.
 Stockwell, C. B., 133.
 Stockwell, G. A., 134, 135, 174, 222, 228, 231.
 Stoelzner, 446.
 Stoker, 180.
 Storck, J. A., 373.
 Stout, 217.
 Stowell, William L., 446.
 Strauss, 468.
 Stretton, 118.
 Strickler, J. W., 355.
 Sutton, E. M., 355.
 Swinburne, G. K., 353.
 Symes, 141, 242, 255.

 Talbot, 464.
 Talma, S., 462.
 Tamplough, 396.
 Tanner, 207.
 Tarnier, 32.
 Taylor, 145, 224.
 Taylor, C. B., 135.
 Taylor, James, 288.
 Taylor, J. M., 305.
 Tecce, 41, 108.

 Tekontief, 113.
 Telford-Smith, T., 49.
 Temple, 263.
 Testevin, 209.
 Thayer, William Sydney, 471.
 Theodor, 305.
 Thibiege, G. M., 401, 403.
 Thierry, 196.
 Thomas, 184.
 Thomas J. J., 50.
 Thompson, 35, 146, 155, 185, 194, 196, 206, 301.
 Thomson, 34, 312.
 Thomson, John, 406.
 Thomson, W. G., 410.
 Thomson, W. H., 90, 94.
 Thorpe, V. G., 211.
 Tickell, 270.
 Tobias, G. W., 330.
 Tomaselli, 19.
 Tompkins, 122, 128, 258.
 Tongue, 218.
 Toughy, J. F., 66.
 Tracy, 75.
 Trebby, 156.
 Treulich, 174.
 Triboulet, 58.
 Tridone, 264.
 Tritton, 179.
 Troisfontaines, 381.
 Trotter, 182.
 Trouseau, 210.
 Trudeau, E. L., 21.
 Trumpp, 53, 250.
 Trunck, 44.
 Tscherning, 435.
 Tschmarke, 86, 199.
 Tuffier, 195.
 Tumas, 264.
 Tunncliffe, 22.
 Turnbull, Jr., Thomas, 365.
 Turner, 262.
 Tuttle, J. P., 267.
 Tweedie, 180.
 Twining, 206, 216.
 Tyson, 18.
 Tyson, James, 348.

 Uhlenhuth, 310.
 Unna, 294, 432.
 Ussery, 101.

 Valençon, 296.
 Vander-Corput, 175.
 Van Harlingen, 255.
 Van Marter, 118.
 Van Mons, 184.
 Vanverts, 69.
 Vater, 205.
 Vaughan, Victor, 23.
 Vedel, 215.
 Vendeler, 332.
 Vergely, 199.
 Verhaegen, 289.
 Vetlesen, 21.
 Vidal, 63.
 Videbech, 469.
 Vigouroux, 296.
 Vincenzo, 186.

- Vinze, 226, 232.
 Vivint, 24.
 Vogel, 413.
 Voigt, 47.
 Volland, 24.
 Von Erlach, H., 77.
 Von Graef, 295.
 Von Leub, 114.
 Von Mars, 423.
 Von Voss, G., 57.
 Von Ziemssen, 24.
 Vulliet, 26.
- Wagner, H. L., 438.
 Walker, 251.
 Walls, 251.
 Walsh, 312, 449.
 Walsh, Captain, 207.
 Walther, 117, 195.
 Walton, 197.
 Ward, L. B., 66, 187, 206, 208.
 Ware, Lyman, 386.
 Waring, 172, 175, 176, 178,
 179, 180, 181, 182, 183, 206,
 210, 214, 215, 217, 224.
 Warren, J. C., 109.
 Wasdin, Eugene, 334, 342.
 Washburn, J. W., 51.
 Wathen, W. H., 464.
 Watson, 98, 279.
 Watú, 256.
 Weaver, H. B., 20, 23.
 Webber, 262.
- Webster, 206, 211, 212, 218,
 224.
 Weichselbaum, 447.
 Weigert, 58.
 Weill, 303.
 Weismayer, 94.
 Weiss, 363.
 Welch, 12, 13.
 Wells, 351.
 Wells, H. B., 352.
 Wesenberg, G., 433.
 West, 214.
 West, C. C., 351.
 West, J. P., 49.
 Westcott, 208.
 Wheeler, J. T., 66.
 Whitaker, W. W., 377.
 White, 254.
 White, Hale, 208, 214.
 White, J. C., 255.
 White, J. H., 342.
 White, Sinclair, 456.
 Whitehead, 207.
 Whitla, 179, 207, 213, 383.
 Widal-Meslay, 414.
 Wier-Mitchell, 228.
 Wiglesworth, 144.
 Wiglesworth, T. R., 209.
 Wilcox, 115, 476.
 Wilder, W. H., 466.
 Wilkinson, 406.
 Williams, 130, 131, 446.
 Williams, C. E., 323.
- Williams, C. W., 394.
 Williams, Watson, 324.
 Wilson, 156.
 Windsor, 27.
 Wingrave, Wyatt, 433.
 Winkler, 379.
 Winslow, R., 79.
 Winternitz, 415.
 Woldert, 17.
 Wolf, 447.
 Wollstein, 249.
 Wood, 460.
 Wood, H. C., 42, 47, 62, 72,
 104, 207, 216, 297.
 Woodhill, 207.
 Woodhull, A. A., 33.
 Woodson, R. S., 333.
 Wrafter, Surgeon-Major, 221.
 Wright, 217, 272.
 Wright, A. E., 402, 405.
 Wright, G. A., 28.
 Wylie, W. Gill, 332.
 Wyman, Walter, 61, 329, 343.
 Wynter, W. Essex, 411, 462.
- Yarr, M. T., 6.
 Yarrow, H. C., 229.
 Yeats, William, 26.
 Young, J. W., 26.
 Young, W. H., 317.
- Zenoni, C., 93.
 Zimmermann, 207.
 Zittmanns, 385.

INDEX.

A model hospital for the insane. Albert L. Gihon.	425
Abdominal injuries.	31
Diagnosis. Demons.	31
Treatment. Le Dentu, Chauvel, Michaux.	31
Abdomen, rare, penetrating wound of. Duer.	147
Abdominal section. H. T. Byford.	344
Abdominal surgery.	81
Exploration and operation. Hall, Coe.	81
Sutures. Réclus, Manton.	82
Abortion.	31
Acetanilid as preventive of. Stephen Harnsberger.	426
Diagnosis. T. W. Eden.	31
Treatment. Tarnier, Henry J. Garrigues.	32
Munro Campbell.	72
Aconite. Boru, Webster, Locke.	211
Acid, carbolic. Amelung, Butler, Mattison.	211
Acid, creasotic.	211
Acid, salicylic. Cumbali, Campbell.	211
Acne.	32
Treatment. Leslie Phillips.	32
Acromegaly.	32
Pathology. Percy Furnivall, John N. d'Esterre.	32
Acute otitis.	108
Etiology. F. P. Hoover.	108
Adenoid vegetations and deaf-mutism. E. Fayette Smith.	345
Adenoids, post-nasal.	108
Diagnosis. Eliot.	108
Rice.	345
Treatment. Eliot.	108
Adhatoda. Khory.	178
Albumin, significance of, in urine. Porter.	232
Albumosuria. Wood.	459
Alcohol, use of. Clauston.	232
Alginate of iron. William Maclellan.	346
Alopecia. Black.	266
Etiology.	266
Prophylaxis.	266
Alum. Eltmuller, Lindt, Muller, Lange, de Mera, Adair, Copeland.	178
Biddle, Ringer.	211
Amblyopia, rare. Campbell.	147
Amenorrhœa.	32
Etiology. W. L. Burrage.	32
Alexander Simpson, Robert A. Reid.	321
Treatment. Leuf, W. E. Fothergill, Alexander R. Simpson, C. Earle Williams, Lutaud.	322
Ammonia salts in sucklings. Keller.	266
Ammonium muriate. Pereira.	172
Angina pectoris.	41
Diagnosis. Tecce, J. H. Musser, H. C. Wood.	41
Tecce.	108
Pathology. Tecce.	108
Treatment. J. B. Bradbury, W. W. Bostwick, Rumpf, J. H. Musser.	42
Animal extracts. Parry, W. E. Moseley.	346
Anthrax.	33
Pathology. Sobernheim.	33
Antipyrine. Ardin-Delteil.	212

Antitoxin and serum-therapeutics. Brieger and Uhlenhuth, Michael.	310
Antitoxin poisoning. Morse.	106
Aperients. Clapton, Chambers.	217
Aphonia.	459
Treatment. Albert Abrams.	459
Apiol. Waring, Joret, Homolle, Stockwell, Serré.	172
Apocynum Cannabinum. A. A. Woodhull.	33
Apoplexy.	82
Treatment. Grasset.	82
Aristol. Haas, McCoy, Walton, Cookman.	196
Arsenic. Chappie, Sir Ronald Martin, Adamson, M. Boudin, Roth, Ringer, Butler, Ricchi, du Cazal.	172
Webster, Ringer, Sainsbury.	212
Physiological action. Byrom Bramwell, Walker, Overend, Comby, Schirlizer, Czerny and Truneck.	43
Arteriosclerosis and Epilepsy. Allen.	108
Artificial feeding of infants. Kerley, Archives of Pediatrics; L. Emmett, Holt, Henry Dwight Chapin, Henry Hoplik, L. Duncan Bulkley, George Carpenter, Henri D. Rothschild.	281
Gregor, Keller.	460
Ascaris lumbricoides.	83
Diagnosis. Fuente.	83
Asthma.	45
Etiology. J. C. Bowie.	45
Treatment. J. C. Bowie, F. I. Knight.	45
Beverly Robinson.	427
Australian fever-tree. Bixby.	178
Bacterium coli commune. Schenck.	310
Barlow's disease.	45
Diagnosis. L. S. Hughes, Naegli.	46
Treatment. L. S. Hughes.	46
Beberia. MacLagan, Waring, Godfrey, Dorward, Anderson, Falconer, Dempster, Cawasjee, Whitla, Goss, O'Shaughnessy, Stevin, Francis, Kirk, Hay, Tritton, Stewart.	178
Bee- and wasp- stings. Marquie, Vinze.	232
Beriberi (general review).	5
Diagnosis. W. J. Buchanan, William B. Orne, M. T. Yarr.	5
Etiology. Lasnet, E. D. Bondurant.	7
Pathology. W. K. Hunter.	8
Nepveu.	148
Symptoms.	7
Crosthwait.	232
Treatment. E. D. Bondurant, Domingos Freire.	8
Crosthwait.	233
Bismuth.	212
Bladder, means of emptying the. Anderson.	311
Blennorrhagic arthritis.	347
Treatment. König.	347
Blepharitis.	33
Treatment. S. C. Ayres.	33
Fage.	148
Blood Examination. Editorial Journal of the American Medical Association, John Lovett Morse, F. P. Henry, Limbeck, G. D. Head, Thomas Turnbull (Jr.), Hans Kohn, G. Lovell Gulland.	361

- Boils, carbuncles, and felons. 347
 Treatment. L. Duncan Bulkley. 347
 Boils (furunculosis). 441
 Treatment. Albert Robin, Skillern, L. Duncan Bulkley, Field, Burlureaux. 441
 Boneset. Goss, Archie Stockwell. 173
 Bright's disease. 347
 Treatment. James Tyson. 347
 Bronchitis, acute. 83
 Treatment. Duncan, Duke, Charbonneau. 83
 Bronchitis, acute, in children. Barnett, Charbonneau. 84
 Bronchitis, chronic. 85
 Treatment. Lyon, Saenger, Dumas, Arthur Davies, Carrière. 85
 Burn, X-ray. J. P. Tuttle. 267
 Burns. 86
 Pathology. Tschmarko, Susuki, Sajous. 86
 Treatment. Miles, Blanchard. 86
 Calaya. Maurage. 174
 Calcined magnesia. Vergely. 199
 Calcium phosphate. Blacklock, Cawasjee. 179
 Calomel. Waring. 179
 Camphor. Waring, Copland. 179
 Biddle. 212
 Cancer (editorial). 25
 Treatment by alcohol. Sajous. 25
 Treatment. Betton Massey, C. D. Spivak, M. L. L. Levchine, Despeignes. 46
 Carbohc acid. Treulich, Déclat, Desplats, Ringer, Wood. 174
 Carbozoate of ammonia. Clark, Popoff, Bose. 180
 Carbuncle. 311
 Treatment. Sol. M. Rosenbaum. 311
 Carcinoma. 33
 Pathology. Thomson. 33
 Carcinoma of lip. 109
 Operation. J. C. Warren. 109
 Cardiac dyspnoea. 72
 Etiology. A. Morrison. 72
 Cardiac sarcoma (primary). 109
 Post-mortem. Lambert. 109
 Cardiac syphilis. I. Adler. 428

 Caries of the teeth and diseases of the stomach. Stark. 460
 Treatment. Charles D. Aaron. 461
 Castor. Sennertus. 180
 Castor-oil; epsom salt; opium. Tongue, Duffin, Broadbent. 218
 Centipede. 226
 Cerebellum, absence of one-half of. 73
 Post-mortem. T. H. Neubürger and L. Eninger. 73
 Cerebral hæmorrhage. Freyberger. 233
 Cerevisiæ fermentum. Stoker, Waring, Tweedie, Lamprey, Hugh Bennett. 180
 Chamomile (Roman). Morton, Cawaigee, Ringer. 174
 Chance, extragenital. 109
 Etiology. Gagzow, Burwinkel. 109
 Charcoal. Calagus, Calvert. 180
 Chelidonine. Guth. 148
 Chigo. 222
 Chilblains. 401
 Symptoms. M. George Thibierge. 401
 Chilblains.
 Etiology. Thibierge, A. E. Wright. 402
 Treatment. Thibierge, Brocq, M. Besnier, A. E. Wright, Chéron, C. Binz, F. W. Forbes Ross. 403
 Chloral-hydrate. 198
 Chloroform. Leonard Hill, H. C. Wood and W. S. Carter, Hobart A. Hare. 47
 Deterioration of chloroform. Newman and Ramsay. 48
 Pathological effects. Friedlander, K. Ajello. 48
 Prevention of accidents. Arnold. 48
 Treatment of collapse. S. T. Reid. 49
 Chloroform *vs.* ether (editorial). Saious. 71
 Chlorosis. 348
 Treatment. Rosin. 348
 Cholagogues. Snow. 233
 Cholera. 73
 Prophylaxis. E. H. Hankin. 73
 Cholera infantum. 241
 Symptoms. Potter. 241
 Treatment. Symes, Jacobi, Loin, Durodie, Lesage. 242
 Cholera morbus. 243
 Treatment. N. S. Davis. 243
 Choreia. 121
 Adult chorea. Facklam, Collins, Krafft-Ebing, Bondurant, Stanley, Rise-man. 125
 Etiology. Sinkler, Reyerson, Tompkins, Legay, Simon, Marfan, Krafft-Ebing, Guck, Meyer, Napier, Cornell, Priestley, Churton, Sanson, Bishop, Dakin, Mosier, Massalongo, Mei, Burr, Loudon. 122
 Legay. 109
 Symptoms. Monroe, Sheffield. 121
 Treatment. Overend, Grancher, Marfan, Renal, Spiller, Sinkler, Tompkins, Lewis, Collier, Krafft-Ebing, Bishop, Marfan, Simon, Rodman, Adams. 127
 W. Essex Wynter. 462
 Cinnamon. Avetoom. 212
 Cirrhosis, atrophic, of liver. S. Talma. 462
 Treatment. 462
 Cirrhosis, hypertrophic, of liver. Kirikow. 462
 Cocaine-inebriety. T. D. Crothers. 267
 Symptoms. 267
 Treatment. 267
 Cocaine poisoning. 148
 Symptoms. Palmer. 148
 Treatment. Palmer. 148
 Coffee Arabica. Gindel, Dorput, Waring, Vander-Corput, Pouquinvillc, Martin-Solon. 175
 Colocynth. Webster, Goss, Locke. 212
 Colotomy and colostomy. König and Sonnenburg, Mosetig-Moorhof. 348
 Condurango. Lemoine. 349
 Congenital laryngeal stridor, or infantile respiratory spasm. 462
 Diagnosis. C. Stamm. 462
 Constipation. 244
 Complications. Hubert. 245
 Etiology. Cook, Ewald, Robinson, Pin-cus. 244
 Treatment. Editorial Journal des Prac-

- Constipation.
 ticiens, Southworth, Jacobi, Carriere, Boas, Ewald, Rosenheim, Fox, Pfaff, Boynton, de Holstein..... 245
- Convulsions, infantile..... 109
 Etiology. Sanger..... 109
 Meunier..... 349
- Corn. Pruitt..... 181
- Corneal ulcers..... 149
 Treatment. Hansell..... 149
- Coryza of children..... 149
 Treatment. Nageli-Akerblom..... 149
- Creasote. Johnson..... 218
- Creolin. Johnston..... 212
- Cretinism. Wm. Osler..... 49
 Prophylaxis. A. Gordon Paterson..... 50
 Treatment. J. P. West, H. E. Drake-Brockman, T. Telford Smith, Wm. Osler..... 49
- Croupous pneumonia..... 34
 Symptoms. Elsner..... 34
- Crusta lactea..... 149
 Treatment. Kistler..... 149
- Curettage of the uterus. W. H. Wathen..... 463
- Curette, use of. Mordecai Price..... 428
- Cusparia. Pereira, Williams, Wilkinson, Hancock, Winterbottom, Waring... 175
- Cystitis..... 249
 Diagnosis. Guépin and Grandcourt... 249
 Etiology. Shrady, Hutinel, Rovsing, Walker, Walls..... 250
 Melchior..... 73
 Prophylaxis. Noble..... 250
 Symptoms. Guitéras, Hutinel, Wollstein..... 249
 Treatment. Guyon, Elliott, Nicolaier, Medical News, Banzet, Harovitz, Colin, Bloom, Escat, Garceau..... 251
 Varieties. Melchior..... 249
- Deafness, inherited, syphilitic. Urban Pritchard, Arthur Cheate..... 464
- Degeneracy, stigmata. Talbot, Jas. G. Kiernan..... 464
- Dermatitis venenata..... 253
 Etiology. Rohé, White, Pfaff, Maisch.. 253
 Symptoms. Rohé..... 254
 Treatment. Rohé, Hardaway, Van Harlingen, J. C. White..... 255
- Diabetes..... 87
 Treatment. Pietro Lupo, Estay..... 87
- Diablito Colorado. G. A. Stockwell..... 222
- Diarrhœa, chronic. Allen A. Jones..... 390
 Etiology..... 390
 Treatment..... 390
- Digitalis: its use and abuse (editorial). Stockwell..... 101
- Dilatation of stomach..... 110
 Diagnosis. W. H. Broadbent..... 110
- Diphtheria..... 50
 Pathology. J. J. Thomas, C. M. Hibbard..... 50
 Treatment. Lindsey Proteous, J. W. Washburn, Trumpp..... 51
- Disinfection. Gemund..... 34
- Dislocation of the clavicle..... 34
 Treatment. T. L. Rhoads..... 34
- Displaced and adherent pregnant uterus.. 74
 Treatment. K. Franz..... 74
- Douche, nasal, abuse of. Lichtwitz..... 234
- Douche, vaginal. E. C. Dudley..... 268
- Dry labor. A. H. P. Leuf..... 311
- Dysentery. W. S. Attygalle..... 349
- Dysentery, amœbic form. Harris..... 234
- Dysentery, tropical..... 234
 Etiology..... 234
 Treatment. Surgeon-Major Fink, Surgeon-Captain Johnston, Attygalls.. 235
- Dysmenorrhœa..... 129
 Etiology. Parsons, Williams, de Leon.. 129
 G. Granville Bantock..... 391
 Treatment. Cameron, Martin, Williams, Routh, Lycett, Fenwick, Dyers, Kerr, Connel, Purslow, Cadell, Langstaff, de Leon..... 130
 G. Granville Bantock..... 391
- Dyspepsia..... 286
 Etiology. Rosenheim, Robin, Dessau... 286
 Treatment. William Armstrong, James Taylor, Einhorn, Verhaegen..... 288
- Dystocia (unusual). McLean..... 111
- Ear, suppuration of middle..... 235
 Operative treatment. Müller..... 235
- Echinococcus of both lungs. Steiner..... 111
- Eclampsia..... 111
 Pathology. Prutz..... 111
 Prevention of. Drejer..... 429
- Eclampsia, uræmic..... 311
 Symptoms. Thomson..... 311
 Treatment. Thomson..... 312
- Eczema..... 289
 Etiology. William H. Merrill, Audry.. 290
 Symptoms. L. Duncan Bulkley, Jamison..... 289
 Treatment. Nelson, M. A. Brousse, Aubert, Jamieson, Steinhardt, Davezac, Jacquet, Besnier, Bulkley, Unna..... 290
 Jacquet, Darezac, Block..... 149
- Embalming crushed members. Jour. des Scien. Méd. de Lille..... 112
- Emetics. Robin..... 150
- Empyema of frontal sinus..... 112
 Treatment. Bryan..... 112
- Enteric fever..... 236
 Symptoms. Openchowski..... 236
- Enteroclysms. Judson Daland..... 349
- Enuresis..... 150
 Treatment. Nason..... 150
- Epilepsy..... 112
 Pathology. Cabbitto..... 112
 Treatment. Cabbitto, Tekoutief..... 113
 C. B. Stockwell..... 133
- Epilepsy, plumbic. Rowland..... 268
 Treatment..... 268
- Ergot. Gross..... 212
 Wright, Stout..... 217
- Ergot in chronic malaria. A. Jacobi..... 465
- Erysipelas. Lobit..... 269
 Treatment..... 269
- Erythema caused by primula acaulis.... 74
 Etiology. Actandor..... 74
 Symptoms..... 74
- Erythema enematogenes (enema rash) in children. Still..... 465
- Eucaïne. Lilienthal..... 392
- Europhen. Nolda..... 198

- Eustachian inflammation..... 150
 Etiology. Kyle..... 150
 Symptoms and Diagnosis. Kyle..... 150
 Treatment. Kyle..... 151
 Exophthalmic goitre..... 151
 Etiology. Valençon, Riche..... 296
 Pathology. Edmunds..... 151
 Symptoms. Page..... 151
 H. Mackenzie, Liégeois, A. Maude,
 J. A. Spalding, Hinshelwood..... 294
 Treatment. Deguy, Bertran, Owen,
 H. C. Wood, George W. Crary,
 Solis-Cohen, Schulz, Doyen, Péan,
 Edmunds, Jonnesco, Marchant,
 Abadie, Jaboulay, Chauffard and
 Quénu, Faure, Lejars, Poncet..... 296
 Page, Jonnesco, Faure, Abadie..... 151
 Bertram..... 350
 Exophthalmic goitre in children..... 429
 Treatment. Gillespie..... 429
 Extraperitoneal rupture of bladder..... 74
 Treatment. J. F. Mitchell..... 74
 Extra-uterine pregnancy..... 74
 Diagnosis. Mayo Robinson..... 74
 Fallopian tubes, diseases of..... 350
 Diagnosis. William H. Skene, A. J. C.
 Skene..... 351
 Fat-necrosis..... 113
 Etiology. Simmonds..... 113
 Filaria ozzardi. Manson..... 34
 Fracture..... 75
 Treatment. E. A. Tracy..... 75
 Fracture between base of cranium and
 bones of face. Slomann..... 75
 Fracture of Elbow-joint..... 236
 Treatment. Smith..... 236
 Fracture of Patella..... 236
 Treatment. Barker..... 236
 Fracture of trachea. Park..... 113
 Funis, short. Krim..... 236
 Gall-stones..... 406
 Diagnosis. A. H. Ferguson, Courvoisier,
 Osler, Steinthal..... 407
 Etiology. William Hunter, Schroeder,
 Naunyn, R. H. Chittenden, Hart-
 mann, M. Mignot, J. Cornillon..... 408
 Symptoms. F. Lange, Osler, Wilkinson,
 John Thomson..... 406
 Treatment. W. Gilman Thompson,
 Brockbank, Blum, Mayo Robson... 410
 Ganglion..... 114
 Treatment. Lacourt..... 114
 Garlic. Pilloy..... 212
 Garrya. Smith..... 181
 Gastralgia. Ewald..... 269
 Treatment..... 269
 Gastric ulcer..... 411
 Diagnosis. W. Essex Wynter, A. Robin,
 Vogel, Billard, Kuttner, Dieulafoy.. 411
 Etiology. Lyman, Widal and Meslay.. 414
 Prognosis. Editorial, Lancet; Ludwig
 Pock, Morse..... 414
 Treatment. Von Leube..... 114
 Dreschfeld..... 152
 Fourrier, Olivetti, Fremont, Winter-
 nitz, Leube, J. Mikulicz..... 414
 Gastro-enteritis..... 351
 Treatment. Wells, Charlotte C. West.. 351
 Gentian. Chavasse..... 181
 Genu recurvatum..... 152
 Etiology. Marchant..... 152
 Pathology. Marchant..... 152
 Treatment. Marchant..... 152
 Genu valgum. Clarke..... 351
 German measles..... 352
 Diagnosis. Forchheimer..... 352
 Glandular fever in children. Pfeiffer... 392
 Symptoms..... 392
 Glaucoma, early recognition of, by a gen-
 eral practitioner. J. E. Morrison... 466
 Treatment. Lavagna..... 269
 Gnat and sand-fly..... 221
 Golf. Irving C. Rosse..... 393
 Gonorrhœa..... 352
 Etiology. H. Brooks Wells..... 352
 Treatment. G. K. Swinburne..... 352
 Gout..... 324
 Diagnosis. Watson Williams, A. H. Buck. 324
 Etiology. Froelich, Nobecourt, Cornil-
 lon..... 324
 Pathology. N. S. Davis (Jr.), A. P.
 Luff, C. S. Bull, Oliver, Riehl, Kittel 325
 Treatment. Christian, Pontoppidan,
 Orville Horwitz..... 53
 Luff, Ransom, Armstrong, H. C.
 Wood, George W. Tobias, F. Levi-
 son, von Noorden, Grawitz, R. New-
 man..... 328
 Gonorrhœa, primary..... 312
 Treatment. Pezzoli, Otto, Walsh..... 312
 Gonorrhœa, secondary. Schuster..... 269
 Etiology of complications..... 269
 Treatment..... 270
 Gonorrhœal arthritis..... 152
 Treatment. Maragliano..... 152
 Gulancha. Stewart, Campbell, Hardie,
 Piddington, Waring, Cawasjee..... 181
 Hæmatoma of vulva. Wettergren..... 153
 Hæmophysis. English..... 75
 Hæmorrhoids..... 114
 Operative treatment. Alexander..... 114
 Hair, functions of. Exner..... 114
 Headache. W. H. Wilder..... 466
 Headache, chronic..... 429
 Treatment, editorial, Cleveland Journal
 of Medicine..... 429
 Heart Disorders. Tickell..... 270
 Treatment..... 270
 Heart-wounds. Lewis..... 76
 Hepatitis. James Cantlie..... 312
 Treatment..... 313
 Hernia..... 237
 Etiology. Bishop..... 237
 Treatment..... 237
 Taxis. Bennecke..... 237
 Radical operation. Deaver..... 237
 Hernia, infantile umbilical. Eccles..... 270
 Etiology..... 270
 Treatment..... 271
 Heroin. Dresser, Morris Manges..... 466
 Hodgkin's disease (see also pseudoleu-
 kæmia)..... 34
 Treatment. J. D. L. Macalister..... 34
 Horse-fly..... 221

- Hot-air treatment. C. H. Frazier, E. L. Morse, A. Graham Reed, S. Solis-Cohen, J. T. Rugh, Alice M. Seabrooke 366
- Hydrocele 153
- Treatment. Block, Etienne, Martin... 153
- Hydrocephalus, acquired 353
- Etiology. Bruce and Stiles 353
- Treatment. Bruce and Stiles 353
- Hydrochloric acid in treatment of diseases of the stomach. Riegel, Kuhn, Strauss, Hemmeter, Boardman Reed 467
- Hydrophobia—rabies 134
- Prophylaxis. G. Archie Stockwell, Law, Smith, Dulles 134
- Hymen, unruptured, in pregnancy. Albespy 468
- Hypertrichosis. Eduard Schiff, Leopold Freund 393
- Treatment 393
- Hypertrophied prostate in the aged 430
- Treatment. George W. Johnson 430
- Hypnotics 115
- Comparisons. Wilcox 115
- Hysteria and pelvic disease. F. X. Dercum 354
- Hysterical anorexia 35
- Pathology. Nebelthau 35
- Hysterectomy, sphincteric. Defontaine... 153
- Ichthyol. Leistikow 197
- Ileus, combined 154
- Pathology. Hochenegg 154
- Immunity. Thompson 35
- Indicanuria 35
- Pathology. Herter 35
- Inebriety 35
- Pathology. T. D. Crothers 35
- Infantile diarrhoea 255
- Etiology. Symes, Cumston, Robinson... 255
- Pathology. Baginsky, Gilbert 256
- Treatment. Watu, Dessau, Gilbert, Epstein, Robinson, Bowles, Neville, Comby, Fenwick, Mikhnevitch, Tompkins, Crandall 256
- Influenza (general review) 8
- Aural complications. W. P. Eagleton, Gorman Bacon 10
- Influence on birth-rate. Engel 11
- Influenza and peripheral neuritis. Herman B. Allyn 11
- Influenza during pregnancy. Démelin... 10
- Pulmonary complications. A. Fraenkel. 11
- Symptoms. Jasiewicz 8
- Treatment. Herman B. Allyn, Jasiewicz, Felsenthal, Bresler 12
- Frudenthal 115
- Inoperable angiosarcoma cured by electrolysis. Paul Videbeck 469
- Insect-bites. Ottinger 271
- Treatment 271
- Insolation (sun-stroke; heat-stroke; Thermic fever; siriassia) 188
- Etiology. Sambon, Colin, de Santi, Chevers, Phillips 189
- Pathology. Lambert, Gieson, Martin, de Santi 188
- Prophylaxis. Kinnear 191
- Symptoms. de Santi 188
- Treatment. Martin, Packard, Lewis, Gannett, Koerfer, Hume, Atkey, Sickel, Smyth, O'Dwyer, de Santi... 190
- Intestinal invagination of infants 154
- Treatment. Cordna 154
- Intestinal perforation 354
- Diagnosis. E. M. Sutton 354
- Intravenous injections. Bose, Vedel 215
- H. A. Hare, G. H. Spencer 313
- Introduction of the stomach-tube with the least possible embarrassment to the patient. Boardman Reed 430
- Introductory notice 161
- Iodine. Kotschorowsky 212
- Ipecac. Piso, Marais, Sloane, Heister, Vater, Annealey, Twining, Ainslie, Geddes, Mortimer, Ballingall, Playfair, Balmair, Ferguson, Waring, Aitken, Niemeyer, Ward, Webster, Fothergill, Pereira, Thompson, Pringle, Cleghorn, Freind, Cambay, Stillé, Tanner, Goss, Farquharson, Roth, Woodhull, H. C. Wood, Surgeon-Major Harris, Surgeon-Captain Walsh, Kanthack, Caddy, Whitla, Docker, Cornish, Balmain, Zimmermann, Delieux, Maclean, Whitehead, Hale, White, Casvasjee, Biddle, Martindale, Westcott, Murrell, Ringer, Sainsbury, Butler, Pearce, W. W. Johnston, W. J. Buchanan, Testevin, T. R. Wiglesworth 205
- Waring, Linnaeus, Fothergill, Sir G. Baker 217
- Iron. Marc, Corvisart, Waring 181
- Ivy poisoning. Frank 238
- Transmission 238
- Treatment 238
- Kala-azar. Giles 315
- Diagnosis 315
- Etiology 315
- Kidney, effect of peptones and albumoses on 154
- Pathology. Thompson 154
- Kidney, movable. Eccles 271
- Treatment 271
- Kidney resection. Bloch 115
- Kryophine. John H. Curtis 355
- Kyphosis (juvenile) 76
- Etiology 76
- Treatment. Lorenzin 76
- Labarraque's solution. Lalesque, Gouzée. 182
- Morse 214
- Lactophenin as hypnotic. Christiani... 394
- Laryngeal occlusion (spasmodic) 116
- Etiology. Stillson 116
- Larynx, carcinoma of 76
- Diagnosis 76
- Treatment. J. P. Clark and F. B. Harrington 76
- Larynx, chronic stenosis of 155
- Etiology. Kjeer 155
- Treatment. Kjeer 155
- Lead poisoning 88
- Pathology. Erb 88
- Symptoms. Hobbs, Hobhouse 88
- Treatment. Hobbs 89
- Leech. Stockwell 231

- Lemons and Limes. Ferguson, O'Connor, Waring 217
- Leukæmia 443
- Diagnosis. Magnus-Levy, Benda, A. Fraenkel 443
- Etiology. L. Pollmann 444
- Pathology. Nonne 155
- Nonne, Otto Barnick 444
- Liver, rupture of the 35
- Pathology. W. Moore 35
- Treatment. Doyen 36
- Locomotor ataxy 36
- Pathology. Langdon 36
- Lupus 315
- W. Anderson 445
- Treatment. Kachanovsky 315
- Asselberg 155
- Lupus erythematosus 431
- Treatment. Unna 431
- Magnesium sulphate. Trousseau, Giacomini, Stillé, Waring, Austin, Flint (Sr.), Webster, Locke, Goss, Stevens, Biddle, Nevins, Bahadurji, Cawasjee, Leahy, V. G. Thorpe, W. Wyatt Smith 209
- Malaria. Medical News 315
- Malaria (general review) 12
- Diagnosis. William Osler, J. F. Jenkins, Bedford Brown, William B. French, A. R. Edwards, Woldert 16
- Pathology. W. G. MacCallum, Opie 14
- Prophylaxis. Bedford Brown 18
- Transmission. Welch, Laveran, Rupert Norton, Ronald Ross, Bignami 12
- Treatment. E. C. Register, A. Celli, F. S. Santori, Cardamatis 17
- Malaria and the Cuban campaign (editorial). Sajous 162
- Malaria and the Santiago expedition: a warning (editorial) 307
- Malarial hæmaturia (general review) 18
- Treatment. Editorial in Therapeutic Gazette. Dawson, Tyson, J. W. Meek, H. A. Hare, Baccelli, Bastianelli, Tomaselli, Murri 18
- Malarial retinal hæmorrhage. Bassères 20
- Mastitis 469
- Treatment. J. B. Jackson 469
- Measles 271
- Diagnosis. Koplik 272
- Slawyk 355
- Infection. Henoch, Osler, Ashby, Wright, Douglas 271
- Sequelæ. Editor 272
- Treatment. Hunter 272
- Meat poisoning. G. Wesenberg 432
- Ménière's Disease 116
- Etiology. Brown and Daland 116
- Treatment. Brown and Daland 116
- Meningitis 445
- Diagnosis. Williams, W. L. Stowell, Stoelzner, Heubner 446
- Etiology. Wolf, Lapersonne, G. F. Stille, Weichselbaum, Jaeger 447
- Pathology. Lewellys, F. Barker 447
- Symptoms. J. W. Carr, A. E. Davis 445
- Treatment. Dinami 448
- Mercuric bichloride. Lemoine 213
- Mercurous chloride. Sir Ronald Marlin 213
- Methylene-blue. Guttman, Mya, Poronski, Blatters, Röttger, Riel, Laveran 186
- Migraine 155
- Etiology. Barnes 155
- Pathology. Barnes 155
- Symptoms. Barnes 155
- Milk as a culture-medium. J. W. Strickler 355
- Milk: its absorption *vs.* its digestion. Bulkley 355
- Monsoni avata. Maberly 213
- Morphine poisoning. C. W. Williams 394
- Treatment 394
- Mosquito 219
- Movable kidney 416
- Diagnosis. Lewis 418
- Etiology. H. Edwin Lewis 418
- Symptoms. Lewis, Einhorn, Cordier, Leonard A. Bidwell 416
- Treatment. Einhorn, Knapp, Keller, Cordier, Cramer, R. Harvey Reed, Lewis 419
- Mudar. Durant 213
- Myxœdema. W. M. Ord 470
- Myxœdema in the negro 356
- Symptoms. Berkley 356
- Treatment. Berkley 356
- Naphthalin poisoning. Otte 316
- Naphthol compounds. Clark, Kartulis, Hinterhof, Glinsky, Whitla, Rossbach 213
- Naragamia Alata. Bictre, Schoengut 213
- Narcotine. O'Shaughnessy, Garden, Biddle, Murrel, Martindale, Westcott, Sir William Roberts 176
- Waring, O'Shaughnessy 214
- Nasal fractures. Garel 117
- Naso-pharyngeal adenoids, danger of operation from, under chloroform. Frank Whitehill Kinkel 433
- Nephritis of malarial origin. William Sidney Thayer 470
- Nephritis, acute 272
- Complications. Kerley 272
- Treatment. Kerley, Black 272
- Nephroptosis (movable kidney) 77
- Treatment. Symons Eccles 77
- Nerve-suture. Seck and Saenger 156
- Neuralgia 448
- Phrenic neuralgia. Diagnosis. Jousset 448
- Symptoms. Osler, Oppenheim, W. H. Brown 448
- Treatment. Levacher, Krause, Krauss, Walsh, Eulenberg, Frank, Capitan, Marchant, Herbet 448
- Neurasthenia 356
- Etiology. Frederick Peterson 356
- Newbouldia Lacois. Eastman 213
- Night-sweats of phthisis 77
- Treatment. Wm. Murrell 77
- Nitrate of potassium. Poggi 198
- Nitratea. Sawyer, Hunter, Burg 177
- Nystagmus, acquired. Percival 272
- Diagnosis 272
- Remarks 273
- Treatment 273

- Obesity 36
 Treatment. P. Jervis..... 36
 Charrin, Guttman..... 54
 Occlusion of posterior nares (complete).
 Clark 117
 Ocular neuralgia..... 89
 Treatment. Markoff..... 89
 The olive-tree. Giadron, Hanbury..... 182
 Operative peritonitis 77
 Treatment. H. von Erlach..... 77
 Ophthalmia neonatorum. Lucien Howe.. 357
 Opium. Trotter, Lind, Waring, Joseph
 Brown 182
 Orthoform. Kallenberger..... 238
 Otiomyasthenia 117
 Diagnosis. Rumbold..... 117
 Patenting of antitoxin (editorial)..... 456
 Pelvic drainage. Ground..... 273
 Pemphigus 357
 Treatment. R. P. Izlar..... 358
 Penis, amputation of. Guitéras..... 316
 Pepper. Waring..... 183
 Pepper-corn 183
 Pericarditis 54
 Diagnosis. Ewart, Wm. Broadbent.... 54
 Treatment. J. B. Roberts, C. B. Porter.. 56
 Peritonitis, cause of death in. Wilson... 156
 Pernicious anemia..... 89
 Autopsy. Coleman..... 89
 Diagnosis. Byrom Bramwell, W. B.
 Ransom, G. von Voss, J. B. Coleman 56
 Symptoms. Coleman..... 89
 Treatment. Coleman..... 89
 Blumenau, Alexander McPhedran... 57
 Pertussis. Carl Spengler..... 36
 Treatment. Chateaubourg..... 156
 Phenocoll. Cucco, Vincenzo, Cerna, Ber-
 narda, Feletti, Olio, Quirogne..... 186
 V. Cervello, Cesare Mondini..... 471
 Phloridzina. De Konick, Van Mons,
 Mathysen, Labaudy, Leonhard, de
 Ricci 184
 Phthisis 317
 Treatment. Squire..... 317
 Phthisis, cough. Jour. de Méd. de Paris.. 273
 Treatment 273
 Picric-acid poisoning. Walther..... 117
 Picric, or carbazotic, acid. Erb, Clark... 183
 Walther, Latouche, Berger, Tuffier,
 d'Arcy Power, Miles, Thompson,
 Thierry, Fileul, Papazoglou, Sila
 Novitsky, Souter..... 195
 Pilonidal sinus. Editorial Phila. Med.
 Jour. 471
 Piperine. Hartle, Meli, Gordini, Blom,
 Soubeiran, O'Shaughnessy, Waring. 183
 Plague 117
 Characteristics. Arnold..... 117
 Infection. Arnold..... 118
 Pneumonia 238
 Diagnosis. Osler..... 238
 Pathology. J. W. Moore, Peter, Levy,
 Ribbert, Finkler, Dürk, Andrew H.
 Smith, Constanzo Zenoni, Osler,
 Royal Amidon..... 92
 Prognosis. Osler, Weismayer..... 94
 Symptoms. W. H. Thomson, Henry
 L. Elsner..... 90
 Treatment. W. H. Thomson, Arthur
 Foxwell, Huchard, Gingeot and De-
 guy, Rubel, Elmer Lee, Baruch,
 Klein, H. M. Fisher, Royal Amidon,
 Solberg, Andrew H. Smith..... 94
 Pneumonia, acute. T. J. Mays..... 273
 Treatment 273
 Pneumonia, croupous. Ironside..... 274
 Abnormal temperature..... 274
 Pneumonia in children..... 450
 Etiology. Dürk..... 451
 Symptoms. Schlesinger, Aufrecht..... 450
 Treatment. H. D. Chapin, Baruch, L.
 Emmett Holt, F. M. Crandall, W.
 P. Northrup, Berg..... 451
 Poisoning by coal-gas. Bolton..... 274
 Diagnosis 274
 Poisoning by stramonium. Shaw..... 274
 Symptoms 274
 Treatment 275
 Potassium permanganate. Levi..... 184
 Pott's disease of the spine..... 156
 Treatment. A. H. Trebby..... 156
 Progressive cirrhosis of the liver, bacteri-
 ology of. J. G. Adami..... 434
 Prolapse of the fundus..... 472
 Treatment. R. Abrahams..... 472
 Prostatic enlargement 118
 Treatment. Stretton..... 118
 Prostatitis, chronic catarrhal. H. M.
 Christian 394
 Diagnosis 394
 Protargol. Editorial Edinburgh Medical
 Journal 395
 Use of..... 395
 Pruritis 421
 Etiology. Sarbo, Herman..... 421
 Prognosis. Dirner..... 421
 Treatment. St. Luke's Hospital Re-
 ports, Ruge, Fieux, Herman, Van
 Mars, H. Robb, Labusquière, D. W.
 S. Samways, José Codina Castelvi,
 Shoemaker, Brocq..... 421
 Pseudoleukemia (see also Hodgkin's dis-
 ease) 454
 Symptoms. F. H. Edgeworth..... 454
 Treatment. J. D. L. Macalister..... 454
 Puerperal septicæmia..... 77
 Treatment. King..... 77
 Pulmonary tuberculosis. Tamplough.... 395
 Treatment 395
 Quassia. Thomas, Lettsom..... 184
 Quinine. Waring, Clark, Douglass, Hux-
 am, Butler, Osler..... 214
 Quinine in malaria. Van Marter..... 118
 Quinine-flower. Bigelow, Palmer, Newton,
 Padeir, Sparr, Hall..... 184
 Raw meat. Druitt..... 218
 Rectal prolapse. O. Helms..... 396
 Treatment 396
 Respiration, intra-uterine. Kevin..... 275
 Rheumatism 275
 Etiology. Bloch..... 275
 Treatment. Lemoine..... 275
 Rheumatism (general review)..... 58
 Acute articular, bacteriology. Achalme,
 A. Riva, Triboulet and Coyon,
 Singer, Jaccoud..... 58

- Rheumatism (general review) 64
- Chronic articular rheumatism. Bäumler 64
- Complications. Dickinson, Beach, Steiner, Bannatyne 60
- Diagnosis, in children. Cheadle 59
- Etiology. Chronic rheumatism. Chvostek 59
- Treatment. Foster, Jaccoud, H. W. Crouse, Eshner, Cheadle, H. C. Wood, Max Olmy, Sokoloff, Editorial in Therapeutic Gazette, Siredey, Lemoine, Vidal 60
- Treatment of chronic articular rheumatism. Ott, Schüller 64
- Rheumatism, acute articular. Lemoine 156
- Rheumatoid arthritis 77
- Treatment. G. A. Bannatyne 77, 317
- Rhus-toxicodendron poisoning. W. H. Young 317
- Right- and left- handedness 157
- Physiology. George M. Kellogg 157
- Ringworm of the scalp. Lyle 435
- Rumination in man. Sinkler 276
- Etiology 276
- Treatment 276
- Salicin. Blom, Pleischl, Goss, Roth 177
- Saline injections. Fauchet 317
- Scabies 318
- Treatment. Holstein 348
- Scalds and burns. J. Abbott Cantrell 192
- Symptoms. Thompson 192
- Treatment 195
- Picric Acid. Walther, Latouche, Berger, Tuffier, d'Arcy, Power, Miles, Thompson, Thierry, Fileul, Papazoglou, Sila Novitsky, Souter 195
- Aristol. Haas, McCoy, Walton, Cookman 196
- Ichthyol. Leistikow 197
- Europhen. Nolda 198
- Thiol. Bidder, Giraudon 198
- Chloral-hydrate 198
- Nitrate of potassium. Poggi 198
- Calcined magnesia. Vergely 199
- Turpentine. McInnis 199
- White-lead paint. Gross 199
- General measures. Tschmarke 199
- Scarlatina 136
- Complications. Rotch, Dittmar, Alexieff, Symes, Seitz, Littlewood, Goodall 139
- Diagnosis. Lindsay, Rotch, Lemoine 137
- Infection. Ingersles, Klein, Grasset, Rotch, Seitz, Cox 136
- Prophylaxis. Cox 137
- Recurrence. Drake, Millard 142
- Scarlatinal nephritis. Kontrebinsky 145
- Symptoms. Meyers, Fussell 138
- Treatment. Huber and Blumenthal, Gordon, Roger, Rappapart, Seitz, Rotch, Pujador, Wigglesworth, Alfaro 142
- Scorbutus, infantile 300
- Diagnosis. Crandall, Isaac Abt 301
- Etiology. Jacobus, J. H. Fruitnight, American Pediatric Society 301
- Symptoms. Crandall, Henry Ashby 300
- Treatment. Jacobus, Baruch, Dessau, Abt 302
- Scorpion. Stockwell, Espinosa, Banerjee, Poredi, Vinze, Joseph Benjamin 224
- Serofula 318
- Treatment. Rousseau 318
- Scrotal pruritus 118
- Treatment. Brocq 118
- Scurvy, infantile. Abt 276
- Treatment. Moizard 277
- Senile gangrene 157
- Treatment. Jones 157
- Serous pleurisy. Prosorowsky 396
- Treatment 396
- Sewer-gas and bacilli. Shattock 119
- Silver nitrate. Stevens, Roth, Hale, White, Ringer, Butler, Fothergill, Sir G. Baker, Gallay, West, Dayabhai 214
- Snakes. G. Archie Stockwell, G. B. Halford, Brenning, Weir Mitchell, Reichert 226
- Sodium chloride. Willemin, Piorry, Hutchinson 185
- Sodium sulphate; sodium and potassium tartrate. Biddle, Archintre 215
- Sodium sulphites. Little 185
- Somatose. Joachim 396
- Felix Heymann 473
- Sore nipples, the prevention of. J. Milton Mabbott 396
- Soymida febrifuga. Waring, Roxburgh, Duncan, Breton, O'Shaughnessy 185
- Spermatic cord, spontaneous torsion of. Barozzi 157
- Spiders. G. Archie Stockwell, Davidson, Waring, Webster, Taylor, Charles Forbes 223
- Spina bifida 473
- Treatment. Nicoll 473
- Stammering 96
- Etiology. Holger Mygind, Makuen 96
- Starch, salivary digestion of. W. G. Aitchison Robertson 397
- Sterility 331
- Etiology. G. Pujol, E. Rode, Vedeler, Benzler 331
- Treatment. Jones, W. Gill Wylie 332
- Sterilization of catgut by dry heat. J. H. Dauber 435
- Stomach, dilation of 370
- Diagnosis. Pepper, Stengle 372
- Etiology. Pepper, Stengle 372
- Symptoms. W. H. Broadbent, S. B. Fowler, Fenger 370
- Treatment. J. A. Storek, Lyman, Broadbent, Boardman Reed 373
- Stomach, diseases of 474
- Treatment. Herschell 474
- Strychnine. Nash 185
- Strychnine: is its continual use unwise? Thomas J. Mays 435
- Strychnos nux vomica. Waring 185
- Substitutes for the cinchona alkaloids in the treatment of tropical malarial diseases 172
- Drugs of the First Class.*
- Ammonium muriate. Pereira 172
- Apiol. Waring, Joret, Homolle, Stockwell, Serré 172

Substitutes for the cinchona alkaloids.

Arsenic. Chapple, Sir Ronald Martin, Adamson, M. Boudin, Roth, Ringer, Butler, Ricchi, du Cazal.....	172
Boneset. Goss, Archie Stockwell.....	173
Calaya. Maurage.....	174
Carbolic acid. Treulich, Déclat, Desplats, Ringer, Wood.....	174
Chamomile (Roman). Morton, Cawagee, Ringer.....	174
Coffee arabica. Gindel, Dorput, Waring, Vander-Corput, Pouquinvill, Martin-solon.....	175
Cusparia. Pereira, Williams, Wilkinson, Hancock, Winterbottom, Waring.....	175
Narcotine. O'Shaughnessy, Garden, Biddle, Murrell, Martindale, Westcott, Sir William Roberts.....	176
Nitrates. Sawyer, Hunter, Burg.....	177
Salicin. Blom, Fleischl, Goss, Roth.....	177
Tartar emetic. Waring, Graves, Moore, Surgeon-Major E. Lawrie, Ringer..	178

Drugs of the Second Class.

Adhatoda. Khory.....	178
Alum. Eltmüller, Lindt, Müller, Lange, de Mera, Adair, Copeland.....	178
Australian fever-tree. Bixby.....	178
Beberia. MacLagan, Waring, Godfrey, Dorward, Anderson, Faleoner, Dempster, Cawasjee, Whitla, Goss, O'Shaughnessy, Stevin, Francis, Kirk, Hay, Tritton, Stewart.....	178
Calcium phosphate. Blacklock, Cawasjee.....	179
Calomel. Waring.....	179
Camphor. Waring, Copland.....	179
Carbozoate of Ammonia. Clark, Popoff, Boee.....	180
Castor. Sennertus.....	180
Cerevisiæ fermentum. Stoker, Waring, Tweedie, Lamprey, Hugh Bennett..	180
Charcoal. Calagus, Calvert.....	180
Corn. Pruitt.....	181
Garrya. Smith.....	181
Gentian. Chavasse.....	181
Gulancha. Stewart, Campbell, Hardie, Piddington, Waring, Cawasjee.....	181
Iron. Marc, Corvisart, Waring.....	181
Labarraque's solution. Lalesque, Gouze.....	182
The olive-tree. Giaduron, Hanbury....	182
Opium. Trotter, Lind, Waring, Joseph Brown.....	182
Picric, or carbazotic, acid. Erb, Clark..	183
Pepper. Waring.....	183
Pepper-corn.....	183
Piperine. Hartle, Meli, Gordini, Blom, Soubeiran, O'Shaughnessy, Waring.	183
Phloridzina. De Konick, Van Mons, Mathysen, Labaudy, Leonhard, de Ricci.....	184
Potassium permanganate. Levi.....	184
Quassia. Thomas, Lettsom.....	184
Quinine-flower. Bigelow, Palmer, Newton, Padeir, Sparr, Hall.....	184
Sodium chloride, Willemijn, Piorry, Hutchinson.....	185

Sodium sulphites. Little.....	185
Soymida febrifuga. Waring, Roxburgh, Duncan, Breton, O'Shaughnessy...	185
Strychnos nux vomica. Waring.....	185
Strychnine. Nash.....	185
Sunflower. Filatoff.....	185
Sweet-flag. Thompson, Royle.....	185
Synthetics—antipyryne, acetanilid, Pam-poukis, Harley.....	185
Phenocoll. Cucco, Vincenzo, Cerna, Bernarda, Feletti, Olio, Quirogne...	186
Methylene-blue. Guttman, Mya, Porenski, Blatters, Röttger, Riel, Laveran.....	186
Tannin. Leriche.....	187
Turpentine. Shapter, Ward.....	187
Zinc oxide. Hendy, Sir Gilbert Blanc..	187
Zinc sulphate. Joseph Brown, McGrigor.....	187
Suppurative inflammation. Georzensky..	157
Suppurative otitis.....	119
Treatment. Lacroix.....	119
Sweet-flag. Thompson, Royle.....	185
Synthetics—antipyryne, acetanilid. Pam-poukis, Harley.....	185
Syphilis.....	375
Diagnosis. C. F. Marshall, E. G. Janeway.....	378
Etiology. Winkler, Niessen, J. G. Adami, M. Delore.....	379
Prognosis. Krauss, Campana.....	380
Symptoms. D. W. Montgomery, C. W. Hitchcock, Rubino, Legrain, Eugene Fuller, J. A. Fordyce, W. Morres, M. Dieulafoy, Sidney Phillips, Kirk, W. W. Whitaker, von Dühring.....	375
Treatment. Troisfontaines, Pediatrics, Manassein, Buret, Cartier, E. Lang, Dabney, Lukasiewicz, Whitla, C. F. Marshall, Jullien, Gilbert and Fournier, Justus, Fournier, Colombini and Gerulli, Cooper, Lyman Ware, Fruitnight, Ramón Guitéras, Keyes	397
Treatment (abortive). Pontoppidan....	78
Syphilis, injections of mercury in. Filaretopoulos.....	318
Syphilis, infantile. Fedtchenko.....	474
Tachycardia.....	158
Etiology. Curtin.....	158
Tænia.....	98
Treatment. Carratu, Watson, Sass....	98
Tannin. Leriche.....	187
Tannin and drugs containing tannic acid. Farquharson, Biddle, Butler.....	215
Tartar emetic. Waring, Graves, Moore, Surgeon-Major E. Lawrie, Ringer...	178
Tetanus.....	259
Diagnosis. Romme.....	260
Etiology. Burot, Kassowitz, Lopez, Ortega, Berlzheimer, Dayus, Rubeska.	259
Pathology. W. K. Hunter, Pitfield, Marinesco, Kitasato, Marie.....	261
Treatment. Engelman, Lambert, Goodrich, Webber, Turner, Chalmers, Jacob, Bristol, Medico-Chirurg. Jour., Nocard, Höfling, Maestro....	261

- Thiol. Bidder, Giraudon..... 198
 Thyroid extract..... 36
 Physiological action. Isaac Ott..... 36
 Ticks..... 223
 Tobacco-amblyopia..... 318
 Symptoms. H. B. Grimsdale..... 318
 Tonsillitis, acute..... 145
 Etiology. Taylor..... 145
 Treatment. Taylor, Kramer..... 145
 Torticollis..... 78
 Treatment. J. Collins..... 78
 Toxæmia..... 78
 Treatment. W. McKeown..... 78
 Trional. Habermann..... 474
 Tropical dysentery..... 202
 Etiology. Kartulis, Councilman, Grasser, Simon Flexner, Hirsch..... 202
 Prophylaxis. Osler, Flexner, Prieur, Bertrand, Archintre, Daniel..... 203
 Treatment..... 205
 Ipecac. Piao, Marais, Sloane, Heister, Vater, Annesley, Twining, Ainslie, Geddes, Mortimer, Ballingall, Playfair, Balmair, Ferguson, Waring, Aitken, Niemeyer, Ward, Webster, Fothergill, Pereira, Thompson, Pringle, Cleghorn, Freind, Cambay, Stille, Tanner, Goss, Farquharson, Roth, Woodhull, H. C. Wood, Surgeon-Major Harris, Surgeon-Captain Walsh, Kanthack, Caddy, Whitla, Docker, Cornish, Balmain, Zimmermann, Playfair, Delieux, Maclean, Whitehead, Hale White, Casvasjee, Biddle, Martindale, Westcott, Murrell, Ringer, Sainsbury, Butler, Pearce, W. W. Johnston, W. J. Buchanan, Testevin, T. R. Wiglesworth..... 205
 Magnesium sulphate. Trousseau, Giacomini, Stille, Waring, Austin, Flint (Sr.), Webster, Locke, Goss, Stevens, Biddle, Nevins, Bahadurji, Cawasjee, Leahy, V. G. Thorpe, W. Wyatt Smith..... 209
 Aconite. Boru, Webster, Locke..... 211
 Acid, carbolic. Amelung, Butler, Mattison..... 211
 Acid, creasotic..... 211
 Acid, salicylic. Cumbali, Campbell..... 211
 Alum. Biddle, Ringer..... 211
 Arsenic. Webster, Ringer, Sainsbury..... 212
 Antipyrine. Ardin-Delteil..... 212
 Bismuth..... 212
 Camphor. Biddle..... 212
 Cinnamon. Avetoom..... 212
 Colocynth. Webster, Goss, Locke..... 212
 Creolin. Johnston..... 212
 Ergot. Gross..... 212
 Garlic. Pilloy..... 212
 Intravenous injections. Bose, Vedel..... 215
 Iodine. Kotschorowsky..... 212
 Mercuric bichloride. Lemoine..... 213
 Mercurous chloride. Sir Ronald Martin..... 213
 Mudar. Durant..... 213
 Monsoni avata. Maberly..... 213
 Naragamia alata. Bictre, Schoengut..... 213
 Newbouldia lacois. Eastman..... 213
 Naphthol compounds. Clark, Kartulis, Hinterhof, Glinsky, Whitla, Rossbach..... 213
 Narcotine (anarcotine). Waring, O'Shaughnessy..... 214
 Quinine. Waring, Clark, Douglass, Huxam, Butler, Osler..... 214
 Silver nitrate. Stevens, Roth, Hale White, Ringer, Butler, Fothergill, Sir G. Baker, Gallay, West, Dayabhai..... 214
 Labarraque's solution. Morse..... 214
 Sodium sulphate; sodium and potassium tartrate. Biddle, Archintre..... 215
 Surgical measures. Patterson, Stephan..... 215
 Tanin and drugs containing tannic acid. Farquharson, Biddle, Butler..... 215
 Turpentine. Copland, Waring..... 215
 Veratrum viride. Ragland, Waring..... 215
 Zinc salts..... 215
 Tropical diarrhœa. Parkes..... 216
 Etiology. Wood, Fothergill, Parkes, Annesley, Twining, Griesinger, Mouat, Hirsch, Sir Joseph Fayrer..... 216
 Treatment. Fayrer, Fothergill, Prout..... 217
 Aperients. Clapton, Chambers..... 217
 Castor-oil; epsom salt; opium. Tongue, Duffin, Broadbent..... 218
 Creasote. Johnson..... 218
 Ergot. Wright, Stout..... 217
 Ipecac. Waring, Linnaeus, Fothergill, Sir G. Baker..... 217
 Lemons and limes. Ferguson, O'Connor, Waring..... 217
 Other remedies. Webster, Goss..... 218
 Raw meat. Druitt..... 218
 Zinc oxide. Brakenbridge..... 218
 Tuberculosis, exanthemata of. Boeck..... 436
 Tuberculosis, infantile..... 474
 Diagnosis. Louis Fischer..... 474
 Treatment. Louis Fischer..... 475
 Tuberculosis of joints. Briezel..... 277
 Treatment..... 277
 Tuberculosis of the larynx..... 37
 Treatment. Donelan..... 37
 Tuberculosis of the lungs (general review) 20
 Etiology. H. B. Weaver..... 20
 Diagnosis. J. P. Arnold, E. L. Trudeau, Vetlesen, Bergonié, Disen, Mark J. Knapp..... 21
 Treatment. E. Lemoine, Clifford Beale, Chaplin and Tunnicliffe, St. Clair Thomson, Fisk, H. B. Weaver, Victor Vaughan, Chapteloube, Descomps, Roullies, Ralph Stockman, H. A. Hare, von Ziemssen, Volland, Vivant..... 22
 Tuberculosis of the lungs..... 37
 Etiology. Abbott..... 37
 Diagnosis. Gage..... 37
 Treatment. Landerer, Heusser..... 37
 Tuberculosis of the middle ear. Seymour, Oppenheimer..... 475
 Tuberculosis, pulmonary..... 476
 Treatment. Delancy, Rochester..... 476
 Turpentine. Shapter, Ward..... 187
 McInnis..... 199
 Copland, Waring..... 215

- Typhoid fever (general review)..... 65
 Diagnosis of perforation. Finney..... 69
 Diarrhoea and perforation. Wm. Osler, Finney..... 69
 Pathology. Osler..... 65
 Surgical treatment. Monod and Van Verts, John B. Deaver, Finney..... 69
 Treatment. Osler, F. E. Hare, S. Solis-Cohen, J. T. Wheeler, J. F. Toughy, Duchenne, A. J. Downes, J. Murray-Gibbes, Ketcher, Owen F. Paget, Herbert Bramwell..... 65
 Typhoid fever..... 37
 Diagnosis. Brill..... 38
 Dietetics. A. G. Barrs, Frederick Shattuck, William Ewart, Ussery..... 98
 Pathology. Hodenpyl..... 37
 Treatment. Henry W. Bettman..... 397
 Typho-malarial fever. A. Crombie..... 397
- Ulcer of the stomach and climate. Hatch. 119
 Ungual phalanx, dislocation of. Huntley-Peck..... 277
 Urethral stricture. Howland..... 278
 Treatment..... 278
 Urotropin. Wilcox..... 476
 Urticaria with recurrent hæmatemesis. Chittenden..... 278
 Treatment..... 278
 Uterine carcinoma. J. H. Etheridge..... 398
 Treatment..... 398
 Uterine disease..... 78
 Etiology. L. D. Bulkley..... 78
 Treatment. E. M. Simons..... 79
 Uterine fibroid..... 78
 Treatment. A. H. Goelet..... 78
 Uterus, double. Kendall..... 319
 Uterus, rupture of. Donald, Metcalf..... 146
- Vaccination. Lowe, A. D. Griffiths, P. R. Cooper, R. W. Lefwich, Sinclair White..... 455
 Vaginitis, gonorrhoeal..... 476
 Treatment. I. L. Polozker..... 476
 Varicose veins. Cumstom..... 398
 Vegetarianism. Surgeon-Captain Grant.. 278
 Venomous bites and stings..... 219
 Mosquito..... 219
 Prophylaxis. Public Health Journal. 219
 Treatment. Neal, Ottinger, Morris, Brocq, Jacquet, Surgeon-Major Wrafter..... 220
 Gnat and sand-fly..... 221
 Horse-fly..... 221
 Diablot Colorado. G. A. Stockwell... 222
 Chigo..... 222
 Vivigagua. G. Archie Stockwell..... 222
 Ticks..... 223
 Spiders. G. Archie Stockwell, Davidson, Waring, Webster, Taylor, Charles Forbes..... 223
 Scorpion. Stockwell, Espinosa, Banerjee, Poredi, Vinze, Joseph Benjamin 224
 Centipede..... 226
 Snakes. G. Archie Stockwell, G. B. Halford, Brenning, Weir Mitchell, Reichert..... 226
- Treatment. G. Roux, Hirschhorn, A. Mueller, Joshua Duke, Banerjee, H. C. Yarrow, Lacerda, Sallden, Calmette, Phisalix, Bertrand, Hodgson, Mackenzie, Early..... 228
 Leech. Stockwell..... 231
 Bee- and wasp- stings. Marquie, Vinze. 232
 Veratrum viride. Ragland, Waring..... 215
 Vivigagua. G. Archie Stockwell..... 222
 Vomiting in pregnancy..... 263
 Pathology. Pozzi, Temple, Hedra, Tumas, Giles, Bue..... 263
 Symptoms. Pozzi..... 263
 Treatment. Pozzi, Gautier, Tridone, Giacosti, Réclus, Gardner, Mauray, Hanks, Jewett, Cameron, McDonald, Gallois..... 264
 R. Frommel..... 319
 Vomiting, intractable. Thompson, Greene 146
 Vomiting of uterine origin..... 278
 Pathology. Shaw..... 278
 Treatment. Shaw, Watson..... 278
 White-lead paint. Gross..... 199
 Whooping-cough..... 303
 Early diagnosis in. Henry Lewis Wagner..... 437
 Etiology. Weill, Hensall and Czapskorski..... 303
 Treatment. Roskam, Moncorvo, Filho, Eross, J. Madison Taylor, Theodor, Rabinschek, M. E. Doumer, Sidney A. Bontor, Marfan, Arthur H. Bigg. 303
 Lancaster..... 279
 Wine and cirrhosis. Richet..... 279
 Wounds..... 79
 Sequelæ. Samuel W. Robinson..... 79
 Treatment. R. Winslow..... 79
- Xanthoma..... 319
 Treatment. James C. Maguire..... 319
 X-ray blindness. Sangree..... 280
- Yellow fever..... 333
 Bacteriology. Havelburg, Sanarelli, Surgeon-General Sternberg, E. Klebs... 334
 Diagnosis. John Guitéras, S. E. Archinard and R. S. Woodson, R. D. Murray, Eugene Wasdin, H. R. Carter, Melier, Edwin Klebs..... 333
 Pathology. Klebs..... 239
 Cuban Commission of Mississippi, R. D. Murray..... 337
 Post-epidemic disinfection. Surgeon-General Walter Wyman..... 343
 Prognosis. Geddings..... 338
 Prophylaxis. H. R. Carter, W. F. Brunner, Wasdin, Seaton, Norman, J. H. White..... 340
 Treatment. Sanarelli, E. K. Sprague, H. M. Folkes, H. D. Geddings, R. D. Murray..... 338
- Zinc oxide. Hendy, Sir Gilbert Blanc.... 187
 Brakenbridge..... 218
 Zinc salts..... 215
 Zinc sulphate. Joseph Brown, McGrigor.. 187





COUNTWAY LIBRARY



HC 4386 H

41 C

971

